Fluids Hypertension Syndromes: 
Migraines, Headaches, Normal Tension Glaucoma, 
Benign Intracranial Hypertension, Caffeine Intolerance. 
Etiologies, Pathophysiologies and Cure.

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Abstract

A – Migraines, Headaches and Fluids Hypertension Syndromes – What are they?
- Answer: Migraines and most primary headaches are the aches of the pressure increase in the fluids:
  - Intraocular Aqueous Humor,
  - Intracranial Cerebrospinal Fluid, and
  - Inner ear’s Perilymph and Endolymph.

  We denominate the fluids’ pressure rises and their consequent migraines, signs, symptoms and sicknesses as the Fluids Hypertension Syndromes.

  Migraines and headaches are not sicknesses: they are symptoms of the sicknesses.

B – How many Fluids Hypertension Syndromes do exist?
- Answer: There are three Fluids Hypertension Syndromes:
  1 – Ocular, due to raises of the intraocular Aqueous Humor pressure.
  2 – Cerebrospinal, due to raises of the intracranial Cerebrospinal Fluid pressure.
  3 – Inner Ears, due to raises of the inner ears' Perilymph and Endolymph pressures.

  Each patient can present one, two, or all the three Fluids Hypertension Syndromes in the same time.

C – Which are the Migraines, Migraine Variants and other alternative signs, symptoms and sicknesses caused by the three Fluids Hypertension Syndromes?
- Answer: There are nearly two hundred different migraines, migraine variants, migraine equivalent syndromes, sicknesses, alternatives signs and symptoms consequent to the three Fluids Hypertension Syndromes. Each person feels his/her migraines, headaches and other signs and symptoms on his/her own distinct mode. There are personal susceptibilities to each one.

  Most aches, signs and symptoms are common to two Fluids Hypertension Syndromes, with statistical distinctions between them. Few migraines, signs and symptoms are exclusive to only one Fluid Hypertension Syndrome. The patients can present the Migraine Variants, Signs and Symptoms randomly.

  Usually the patient repeats the same sign(s) or symptom(s), but sometimes adding another, or subtracting, or changing one of them. It is common the patient presents simultaneously two or more signs and symptoms.

  When the fluids hypertension are at a relative low level, they cause repetitive much pain and no definitive harm. When correctly medicated, the patient cures without any remaining damage.

  However, after many relapses and coincide with the personal susceptibility, or when the pressure rises too much and for time enough, the affected nerve can suffer progressive or sudden definitive damage, and the patient feels less Migraines or other signs or symptoms.

  We and hundreds other physicians cited in the text, observed the followings signs and symptoms chronic or recurrent, sometimes denominated as “allergic”, “idiopathic”, “co-morbidity”, and sicknesses, all caused directly or indirectly by the fluids' hypertension syndromes. We assorted them from each Fluid Hypertension Syndrome and from the caffeine intoxication (this list is incomplete and it may have misplacement):

D – Sicknesses, Signs and Symptoms that, although they can have other etiologies, they are also caused by the Ocular hypertension Syndrome and by the Cerebrospinal Fluid Hypertension Syndrome:
  1– Amaurosis Fugax. Transient blindness. Retinal migraine.
  2– Anterior visual pathway migraine.
  3– Blepharitis. Itching eyes.
  4– Blinks excessively.
  5– Bulbar conjunctival cystic edema (Episceral edema).
  6– Bulbar sub-conjunctival hemorrhage.
  7– Burning eye sensation.
8– Cellulitis (infectious) in the cheek.
9– Chalazion.
10– Cheek edema.
11– Chronic daily (journal) headache. Persistent or recurrent headaches (pain). Chronic migraine.
13– Conjunctivitis, infectious: acute or chronic.
14– Constriction of the visual field.
15– Contact lens intolerance.
16– Colors vision disturbance.
17– Dry eye feelings (without indeed drying).
18– Edema of the tarsal conjunctiva.
19– Entoptic vision. Flying dots.
20– Eyebrow edema.
21– Eyelash ptosis.
23– Eyelid twitching (trembling).
25– Facial sweating.
26– Floppy eyelid syndrome. Lax eyelid syndrome.
27– Headaches and Migraines with the interruption of the caffeine use.
29– Intraocular pressure of 17 mmHg or higher.
30– Itching eyes. Scratching eyes. Rubbing eyes. Tickling eyes.
32– Migraine without aura. Headache.
33– Migrainous facies. Haggard appearance.
34– Miosis in both eyes (Pupils contracted without medicament).
36– New-born and sucking infant rubbing (scratching) his eyes.
37– Ocular glands secretion disturbances. Increased ocular chronic secretion.
39– Ocular Migraine or ache.
40– Papillary conjunctivitis. Allergic conjunctivitis.
41– Photophobia. Excessive eyes sensitivity to the light.
42– Primary headaches.
43– Prodrome (premonitory symptoms) of migraine.
44– Psychogenic headache. Conversion headache.
45– Retinal Vein Thrombosis (Occlusion):
46– Central Retinal Vein Thrombosis.
48– Rosacea at the face.
49– Sexual activity headache. Orgasmic (pre-orgasmic) headache. Intercourse headache.
50– Shoulder pain.
52– Sty.
53– SUNCT Syndrome. (Short-lasting, Unilateral, Neuralgiform ocular pain, Conjunctiva fluid-filling and Tearfulness).
54– Supra-orbital nerve neuralgia.
55– Tearfulness. Lachrymation. (Lacrimation).
56– Terrien marginal degeneration?
57– Throbbing migraine. Pulsatile migraine.
59– Transient Hemianopsia.
60– Visual acuity disturbance.

**E – Signs, symptoms and definitive damage** that, although they can have other etiologies, they also are caused by the Ocular Hypertension Syndrome:

- **Glaucoma:**
  64– Congenital glaucoma?
  65– Glaucomatous blindness.
  67– Morning glory syndrome.
  69– Optic Nerve disk’s cup larger or deeper than the physiologic. Increased cup-disk ratio.
  70– Optic Nerve Lamina Cribosa’s pores visible at the cup’s bottom.

- 72– Keratoconjunctivitis sicca?
- 73– Somnolence at visual work.
- 74– Temporary visual field abnormalities.

**F – Sicknesses, signs and symptoms** that, although they can have other etiologies, they also are caused by the Inner ears Hypertension Syndrome or by the Cerebrospinal Fluid Hypertension Syndrome:

- 76– Acute Mountain Sickness.
- 77– Benign paroxysmal torticollis of infancy?
- 78– Buzzing.
- 79– Childhood benign paroxysmal vertigo.
- 80– Cochlear (Inner ears) dysfunction.
- 81– Cyclic vomiting syndrome.
- 83– Diffuse or spread headache or migraines.
- 84– Erythromelalgia. Red ear syndrome.
- 85– Fall (sudden). Faint.
- 86– Fullness in the ear.
- 87– Head-top (vertex) (crest) ache or Migraine.
- 88– Hemicrania. Hemicrania continua. Temporal migraine in one or both head sides.
- 89– Hemodialysis headache.
- 90– Hyperacusis.
- 91– Hyperemesis gravidarum? Vomiting of pregnancy?
Labyrinthitis. 
Ménière disease. Endolymphatic hydrops. 
Motion sickness? 
Nausea. Retching. 
Nystagmus. 
Otitis “allergic”. Pain in one or both ears. 
Phonophobia. Sonic phobia. (Sonophobia). Increased sound aversion. 
Tingling. Tinnitus. Ringing ears. 
Vasovagal response or syndrome. 
Vertebrobasilar artery migraine. Bickerstaff syndrome. 
Vestibular migraine. Vertiginous migraine. 
Vomiting. 
Whiplash headache. Thunderclap headache.

G – Sicknesses, signs and symptoms that, although they can have other etiologies, they also are caused by the Cerebrospinal Fluid Hypertension Syndrome and by the Caffeine intoxication:

Acute confusional migraine. 
Adie's pupil – Tonic pupil. 
Alice in Wonderland syndrome. 
Allodynia at any nerve or body's place. 
Alternating hemiplegia of childhood? 
Alzheimer disease? 
Amnesia, transient global. 
Amyotrophic Lateral Sclerosis. Lou Gehrig disease. 
Anosmia. 
Atopic neurodermatitis. Dermic neuralgia. 
Bell’s palsy. Peripheral facial palsy. 
Benign unilateral episodic mydriasis. 
Blurring of vision. 
Brain’s cortex disturbs. 
Brain’s gray matter volume reduction. 
Bronchitis, “allergic”. 
Central Serous Chorioretinopathy. Serous macular detachment. 
Central visual acuity loss. Blindness. 
Choroidal folds. Concentric retinal folds. Paton lines. 
Clumsiness. 
Colic and other digestive disturbances. 
Compressive spinal radiculitis. 
Cough headache. 
Decreased color perception. 
Dermographism. Dermatographic urticaria. Skin writing.
Drusen (druses) in the Optic Nerve’s Disk.

Dry Cough. Chronic cough without any pulmonary lesion.

Dry eye.

Empty Sella Turcica Syndrome.

Enlarged blind spot.

Exudative Macular Star.

Exudative retinal detachment, bullous and serofibrinous.

Facial Paresthesia.


First-of-Ramadan headache.

Galactorrhea-Amenorrhea?

Gastric stasis.

Hemichorea?


Hydrocephalus with normal cerebrospinal fluid pressure.

Hydrocephalus, idiopathic at childhood.

Iris partial palsy. Afferent pupillary defect.

Leber Hereditary Optic Neuropathy?

Legs cramps at awakening.


Macular degeneration, exudative. Age-related Macular Degeneration. AMD. Caffeine, Wine and Beer macular degeneration.

Macular drusen.

Macular edema. Cystoid macular edema.

Macular Hole.

Macular scar.


Middle forehead (upper nose or ethmoid) migraine. Ethmoid headache.

Multiple Sclerosis.

Nasal Polypos.

Neck-tongue syndrome.

Neuralgias (others).

Nonarteritic Anterior Ischemic Optic Neuropathy (NAION).

Nummular headache.


Obstructive sleep apnea syndrome (OSAS).

Ocular or orbital aches (pain) when turning the eyes.

Odour-phobia. (Odorphobia). Osmophobia.

Olfactory hypersensitivity. Olfaction disorders.

Optic disc hyperemia.

Optic Nerve’s Crowded disk. Incipient NAION.

Optic Nerve’s disk borders edema. Mild chronic papilledema.

Ophthalmoplegic migraine. Migraine with strabismus.


Peri-vascular white sheaths around the Optic Nerve’s disk vessels.

Pharynx irritations and Pharynxitis. Chronic allergic pharyngitis.

Pituitary hormonal disturbs. Pituitary dysfunction.
182 – Retinal exudates and cotton-wool spots.
183 – Retinal geographic atrophy. Serpigious choroiditis.
184 – Retinal hemorrhages.
185 – Retinal pigment epithelial changes.
186 – Retinal pigment epithelium detachment.
187 – Sciatica.
188 – Sixth cranial nerve (abducens) palsy, unilateral or bilateral. Strabismus. Squint.
189 – Sjögren syndrome.
190 – Sneezing (mainly at awakening).
191 – Status migranosus.
193 – Subretinal hemorrhages.
194 – Subretinal neovessel membranes.
196 – Venous stasis retinopathy.
197 – Vitreous-retinal adhesion.

**Caffeine and Theobromine** alone, or together with **Beer** or **Wine**, besides causing or contributing to cause all the above diseases, signs and symptoms, also worsen or cause other sicknesses and disturbs which do not belong to the Fluids Hypertension Syndromes. This list is incomplete and it does not include many sicknesses which are caused only by Beer or Wine, because they were beyond of our range:

198 – Aches from Spinal Osteophytosis, from Spondylitis and from Ankylosing Spondylitis.
199 – Aches (pain) from Repetitive motion injuries.
200 – Achilles' heel tendon rupture?
201 – Adiponectin increase.
202 – Affective spectrum disorder.
203 – Alcohol dependence.
204 – Alexithymia.
206 – Allergy, anyone.
207 – Alopecia.
208 – Alpha power reduction on electroencephalogram.
209 – Analgesic nephropathy.
210 – Anaemia (anemia). Erythropoietin level reduction.
211 – Anencephaly. Neural tube defects.
212 – Aneuploid cell production.
213 – Anger potentiation.
214 – Angitis of the Central nervous system. Central nervous system vasculitis.
215 – Angioneurotic edema.
216 – Anorectal atresia, congenital.
217 – Anotia/Microtia, congenital.
218 – Antiphospholipid antibody syndrome?
219 – Antisocial personality disorder.
220 – Anxiety disorder.
221 – Aortic aneurism.
222 – Aortic stiffness. Arterial stiffness.
223 – Arterial aneurism intra-cranial. Cerebral aneurysm?
224 – Arterial blood hypertension. Increased systolic and diastolic blood pressures.
225 – Arterial thromboses (consequent to the Nicotine or to the Caffeine?).
226 – Arthralgia.
228– Aseptic neuritis.
229– Asthma.
231– Attention-deficit hyperactivity disorder (ADHD).
232– Atypical hyperplasia of Benign Breast Disease.
233– Autoimmune diseases.
234– Autophagy in skeletal muscle cells.
235– Axillary hyperhidrosis.
236– Baby’s glaucomatous predisposition, consequent to his mother drinker of caffeine.
237– Baby’s dependence predisposition, consequent to the mother dependent of caffeine?
239– Behavioral disturbs at the second generation, on mice.
240– Bipolar disorder.
241– Bones development inhibition.
242– Brain disorders in the fetus and postnatal.
243– Brain ventriculomegaly.
244– Breast feeding baby disturbs.
245– Breast volume reduction.
246– Caffeine dependence.
247– Caffeinism. Chronic intoxication with caffeine.
248– Caffeine acute intoxication.

Cancers already related with caffeine, theophylline, theobromine and Coca-Cola:

249– Bladder transitional cell carcinoma in men never-smoker, from coffee and tea. In young women, from coffee.
250– Breast cancer in obese women, from caffeine, theophylline, and theobromine. Malignant mammary tumors in rats, from Coca-Cola.
251– Colon, large bowel and rectal cancer, from coffee, kola nut; in women, from green tea.
252– Esophageal cancer from tea at Kashmir (India).
253– Gastric (stomach) cancer from tea at Kashmir (India).
254– Gastric (stomach) cancer in men, from green tea.
255– Leukemia (acute) in children from mothers non-smokers drinking coffee or cola.
256– Lung adenocarcinoma, from kola nut, coffee, and green tea. Pulmonary adenocarcinoma with Clara cell from caffeine.
257– Melanoma from caffeine?
258– Ovarian cancer, from coffee.
259– Pancreas exocrine adenomas in rats, from Coca-Cola.
260– Pancreatic cancer, from coffee.
261– Pancreatic islet cell carcinomas in female rats, from Coca-Cola.
262– Prostate cancer, from theobromine (chocolate).
263– Skin tumours in Xeroderma Pigmentosa patients.
264– Thyroid carcinogenesis from caffeine.

265– Cardiac arrest (primary).
267– Cardiac impairment of ventricular function.
268– Cardiac underdevelopment, congenital.
269– Carpal tunnel syndrome.
270– Cataract congenital (on rats).
271 – Celiac (coeliac) disease (gluten enteropathy) (sprue) (collagenous-lymphocytic colitis).
272 – Cells division (DNA replication) (chromosomes) disturbs. Chromosomal disorders and aberrations.
273 – Cerebral blood flow decreased.
274 – Cerebral fetal underdevelopment (on rats).
275 – Cerebral palsy?
276 – Childhood obesity (congenital).
277 – Choanal atresia (in newborns).
278 – Cognitive behavior disturbs on offspring adults.
279 – Connective tissue weakness.
280 – Corneal staphyloma in Down’s syndrome. Other sicknesses in Down’s syndrome?
281 – Coronary artery heart disease.
282 – Cortisol and adrenocorticotropic hormone increase.
283 – Costochondritis. Tietze syndrome. Slipping rib syndrome.
284 – Craniosynostosis, congenital.
285 – Craving for nicotine.
286 – CREST syndrome (Calcinosis, Raynaud's phenomenon, Esophageal dysmotility, Sclerodactyly and Telangiectasia)?
287 – Crohn’s disease.
288 – Cryptorchidism, congenital.
289 – Cyclical mastalgia (Menstruation-associated breast pain).
290 – Death (by cardiac arrest?).
291 – Dental caries in adolescents.
293 – Diabetes Mellitus. Elevated blood sugar.
294 – Diabetes mellitus in the offspring adulthood.
295 – Diabetic retinopathy.
296 – Digestive disturbs.
297 – Diuresis and natriuresis. Dystonia.
298 – Down's syndrome? Down's syndrome worsening?
299 – Drug-related eosinophilia with systemic symptoms (DRESS).
300 – Duane syndrome?
301 – Dystocia in low-risk nulliparous women.
302 – Dystonias.
303 – Eczema.
307 – Endometriosis and tubal disease.
308 – Endothelial progenitor cells reduced.
310 – Epinephrine increase.
311 – Erysipela susceptibility.
312 – Esophageal atresia, congenital.
313 – Excitement.
314 – Fertility reduced. Conception delayed for more than one year. Infertility. Lower fecundability.
315 – Fetal brain development disturbs.
316 – Fetal tachycardia.


319– Fight or Flight syndrome.

320– Flushing of the face.

321– Fractures, mainly in elderly people. Osteoporotic fractures.

322– Frog larvae (tadpoles) Xenopus laevis teratogenesis.

323– Fuchs’ endothelial dystrophy?

324– Gallstone disease.

325– Gastric polyps.

326– Gastritis. Increased stomach acid secretion.

327– Gastro-oesophageal reflux.

328– Gay personality, congenital.

329– Genetic congenital malformations expression (penetrance) and genetic propensity or sensibility to any caffeine sickness.

330– Genital herpes relapsing.

331– Genital hyperesthesia.

332– Gestational Diabetes Mellitus.

333– Glaucomatous inherited tendency. Weakening of the Optic nerve disc during the fetus formation.

334– Glottis edema?

335– Graves disease.

336– Hallucinations and Delirium.

337– Hashimoto's thyroiditis?


339– Heartburn.

340– Heart mitochondria lesions in newborn rats.

341– Heel spur aches (pain).

342– Hemifacial spasm.

343– Hip fracture risk increased.

344– Homocysteine level increase in the blood.

345– Hot flashes in post-menopausal women.


347– Hyperthermia in rats.

348– Hyperthyroidism.

349– Hypothyroidism.

350– Hypochondriasis.

351– Increased body fat in male mice.

352– Inflammatory markers increased.

353– Insomnia.

354– Insulin sensitivity reduced. Insulin resistance.

355– Interstitial cystitis. Painful bladder syndrome.

356– Interstitial nephritis chronic, consequent to analgesics (with caffeine?).

357– Irritability.


361– Killing birds: Kea (Nestor notabilis).

362– Killing insects.

363– Killing mammalians:
- Coyote (Canis latrans) (Prairie wolf).
- Dog.
- Red fox (Vulpes vulpes).
- European badger (Meles meles).
- Rat, Guinea Pig.
- Woman, Child, Human.

364– Legs edema.
365– Liver enzymes reduced.
366– Liver toxicity raise to a power, acute damage exacerbated, and pro-inflammatory cytokines increased.
367– Low-density lipoprotein cholesterol (LDL) higher level.
368– Lupus erythematosus.
369– Malignant hyperthermia susceptibility.
370– Mania?
371– Medullary disturbs.
372– Memory loss?
373– Menopausal hot flush.
374– Menstrual shorten cycle length and menses. Menstrual dysfunction.
375– Mental ill-health. Lower mental well-being.
376– Metabolic Syndrome. Elevated blood fats.
377– Microphthalmia in the chick embryo.
378– Mitral valve prolapse?
379– Mood changes (swings).
380– Morton's neuroma aches.
381– Motor coordination impairments.
382– Multiple evanescent white dot syndrome (MEWDS) at the retina.
383– Myocardial infarction, acute.
384– Myopia – increasing degrees: moderate to severe.
385– Myopia – increasing people suffering.
386– Necrotizing enterocolitis in premature infants.
387– Nephritis, chronic interstitial.
388– Nervousness. Stimulated central nervous system.
389– Neurogenesis depressed.
390– Neuromuscular transmission subclinical dysfunction.
391– Neurotoxicity. Inhibition of neural repair and promotion of neuroinflammation.
392– Newborns sufferings from mothers’ drinkers of caffeine.
393– Nocturia. Nocturnal enuresis in children?
394– Nonarticular rheumatism in women.
395– Obesity?
396– Omentum (belly-fat) increase.
398– Orthopedic aches.
400– Ovarian follicles reduction.
401– Paget's disease?
403– Paraproteinemias? Cryoglobulinemia? Gammopathy?
404– Parkinson’s disease.
405– Paroxysmal Choreo-athetosis.
406– Pellucid Marginal Corneal Degeneration? Keratotorus?
407– Peptic Ulcer.
Periarteritis nodosa.
Periodic limb movement disorders.
Physical underdevelopment. Stuntedness.
Pinguecula in the eyes.
Plantar Fasciitis aches (pain).
Plasma fibrinogen elevated.
Platelet aggregation increase.
Polycystic ovary syndrome.
Polypoidal choroidal vasculopathy in the eye.
Postural orthostatic tachycardia syndrome.
Preeclampsia.
Premenstrual breast pain. Cyclical mastalgia.
Prinzmetal's variant angina?
Prolactin secretion disturbs?
Pruritus ani.
Pseudoexfoliation glaucoma.
Pseudo-exfoliative (exfoliation) syndrome.
Psoriasis?
Psychiatric illnesses on adults whose mothers drank caffeine?
Psychological congenital disorders?
Psychomotor agitation.
Psychopathologies in adolescents.
Psychosis. Delusions. Paranoia.
Pterygium. Pterygium aggressiveness.
Pulmonary hypertension syndrome.
Rambling flow of thought and speech.
Raynaud's vasospastic syndrome.
Renal failure exacerbation in diabetic rats.
Renal glomerulosclerosis of adult offspring.
Renal papillary necrosis.
Restlessness.
Restless Legs Syndrome.
Retinal infarction.
Retinal ischemic peripheral degeneration? Retinal tear? Retinal detachment?
Retinoschisis.
Reversible cerebral vasoconstriction syndrome.
Rhabdomyolysis.
Rheumatoid Arthritis.
Schizophrenia. Schizoaffective disorder.
Scotopic sensitivity syndrome? Irlen syndrome?
Sex hormones disturbs.
Sinusitis, chronic.
Skeletal growth impairment. Impaired fetal length growth.
Sleep disorders in adults and infants. Somnambulism. Poor sleep hygiene.
458– Sleep bruxism.
459– Slenderness.
460– Small intestinal atresia, congenital.
461– Snoring excessively.
462– Sperm damage.
463– Spina bifida. Neural tube defects.
466– Stress worsening.
468– Stuttering?
469– Sudden Infant Death Syndrome.
470– Suicide increase.
471– Susac's syndrome?
472– Sweating excessively on palms and soles. Palmar hyperhidrosis.
473– Tendonitis (calcareous)?
474– Teratogenic potentially effects (on humans and mice).
475– Testicular atrophy.
476– Testosterone reduced in postmenopausal women.
477– Testosterone and semen reduced in sons.
478– Thrombocytosis?
479– Thrombocytopenia.
480– Thyroid Eye Disease? (Thyroid-related Immune Orbitopathy?)
481– Tolosa–Hunt syndrome? (Unilateral headaches with extraocular palsies).
482– Tooth wear.
483– Tooth cariogenesis and tooth enamel badly developed (on rats).
484– Tourette syndrome. Tic Disorders.
485– Toxicity exacerbation.
486– Type A personality.
487– Urinary calcium and magnesium losses increased. Hypercalciuria.
488– Urinary hydrogen peroxide levels increased.
490– Urination increased.
491– Urinary obstruction.
492– Urticaria.
493– Uveitis: anterior chronic or relapsing.
494– Varicose veins increase.
495– Vascular placental pathology.
496– Vasoconstriction of most arteries.
497– Vasodilation, rebound of the previously constricted arteries.
498– Vasodilation of internal mammary artery.
500– Venous thromboses.
501– Violence increase between high school students.
502– Vitiligo.
503– Voice disorders in teachers.
504– Xeroderma pigmentosum worsening.
505– Weight gain (edemas). Water retention. Obesity.
506– Weight loss.
507– Wide-awake drunk.
Withdrawal of caffeine syndrome.

I ask to myself: “Is there any sickness, health disturbance or pathology which can not be related, caused, or worsened by the caffeine intoxication?” Can you answer this question?

I - Which are the Etiologies or Risk Factors for the three Fluids Hypertension Syndromes?
- Answer: The most important etiologies are common to all the three Fluids Hypertension Syndromes, with statistical differences between them. Few etiologies are exclusive to only one Fluid Hypertension Syndrome. Usually the patient has two or more etiologies simultaneously. The etiologies we detected until now, are (this list is incomplete):

J – Etiologies or Risk Factors common for all the three Fluids Hypertension Syndromes:
1) Caffeine and theobromine in:
   - Coffee.
   - Soft drinks, energy drinks, guaraná, colas, etc.
   - Tea, Black tea, Green tea, White tea, Mate, Chimarrão, etc.
   - Brown and dark Chocolate.
   - Medicaments for weight loss.
   - Medicaments for common cold and influenza (flu).
   - Medicaments for relieving pain.
   - Other medicaments.
2) Excessive daily liquids drinks, mainly water.
3) Beer drinks.
4) Wine drinks.
5) Estrogen falling level. Menstrual variation of fluids’ pressures. Contraceptives with estrogen.
6) Diffusion to the head of the retained water in the body, when laid down.
7) Cranial venous hypertension, when laid down and in exercises with head-down positions.
9) Nourishment irregularities. Fasting.
10) Emotional stress, causing excessive endogenous adrenaline (epinephrine), cortisone, and neural reflexes.
11) Ethnic, familial or genetic inherited propensity for migraine, glaucoma or Benign intracranial hypertension.
12) Hyper-hydration and medicaments in the hospitalized patient.
13) Aging.
14) Vasoconstrictors. medicaments with Ergot or Tryptan. Nasal medicaments with vasoconstrictors.
15) Vasodilators.
16) Phosphodiesterase type 5 inhibitors (retinal and brain vasodilators) (Sildenafil, Vardenafil, Tadalafil).
   - Congenital right to left blood shunt, caused by:
   17) Cardiac patent foramen ovale.
   18) Pulmonary arterio-venous malformation.
20) Medicaments that raise the fluid pressures, besides caffeine, vasoconstrictors and vasodilators.
21) Valsalva maneuver.
22) High resistance wind instrument playing.
23) Sirsasana (Shirshásana) (headstand) yoga posture.
24) Tight neckties.
25) Weight lifting.
26) Queckenstedt test.
27) Very low arterial pressure when sleeping or in surgeries.
28) Anderson-Fabry disease (X-linked recessive alpha-galactosidase A deficiency)?

**K - Etiologies or Risk factors private to the Ocular Hypertension Syndrome**, besides those common to all three Fluids Hypertension Syndromes:

29) Excessive visual strain.
30) Excessive use of TV or Computer.
31) Intra-nasal corticosteroids.
32) Intracoarcular injections of medicaments.
33) Intraocular pressure rise with the eyes closed when sleeping.
34) Irregular sleep.
35) Ocular compression during surgeries or exams.
36) Ocular shallow anterior chamber.
37) Sleeping with one arm squeezing over the eyes. Sleeping with the face squeezing the eyes over the arm.
38) Sleeping with a small or no pillow?
39) Somatic medicaments that rise the intraocular pressure, besides vasodilators:
   - Psychotropics.
   - Corticosteroids.
   - Over-hydration, oral.
40) Visual strain with low illumination.

**L – Etiologies or risk factors private to the Cerebrospinal Fluid Hypertension Syndrome**, besides those common to all three Fluids Hypertension Syndromes:

41) Cranial venous (dural) (cerebral) sinus thrombosis, after:
   - Cerebral trauma or head injury.
   - Meningitis.
42) Congenital incomplete posterior Circle of Willis?
43) Daily cerebrospinal fluid pressure cyclic rise (when sleeping?).
44) Jugular vein obstruction or thrombosis:
   - Idiopathic.
   - After neck injury.
   - Tumor.

- **Etiologies private to the Cerebrospinal Fluid’s Hypotension Syndrome**,  
45) Lumbar puncture (spinal tap).
46) Spontaneous Intracranial Hypotension.
47) Ventriculoperitoneal Shunt (surgical).

**M – Which is the pathophysiology that causes the three Fluids Hypertension Syndromes**, Sicknesses, Migraines and all alternative signs and symptoms?

Answer: The etiologies mentioned above cause an excess of blood capillary permeability with consequent hypertension of the fluids’ pressures during minutes or hours, of:

1) The Cerebrospinal Fluid in the skull,
2) The Aqueous Humor in the eyes,
3) The Perilymph and the Endolymph in the inner ears.

These fluids hypertension squeeze all the living structures and the nerves immersed in them, and they ache as Migraines or all the other alternative signs and symptoms.

When it is too strong or repeated hundreds of times, the squeeze of these structures and nerves damages them, causing their definitive lesions and sicknesses.

The Ocular Hypertension squeezes the ocular inner structures and the Optic Nerve’s Disk, from inside the eye to the outside, which is the Optic Nerve, and it aches. Its main definitive damage is the Normal (Peak) Tension Glaucoma.
The Cerebrospinal Fluid (intracranial) Hypertension squeezes the Brain, Spinal Chord, Dura mater, all the cranial and spinal nerves, which means all the body's nerves, and they ache:

- The most frequent aches (pain) are from the Optic Nerve’s Disk, squeezed from the Optic Nerve to inside the eye, which aches similarly to the Ocular Hypertension Syndrome. Consequently, many migraines and other symptoms from the Cerebrospinal Fluid Hypertension Syndrome are similar to those from the Ocular Hypertension Syndrome.
- The nerves of all the body as they depart from the central nervous system are stretched, and this causes many nerves’ aches and damages.
- The Brain and Spinal Cord are also stretched. Which are their definitive damages? Multiple sclerosis? Alzheimer's disease?

Caffeine and theobromine are the main etiologies to the three Fluids Hypertension Syndromes and their around 200 signs, symptoms and sicknesses. Besides these, their scattered toxic effect also cause other more than 300 sicknesses, which are unrelated with the fluids pressures.

**N** - Which are the most effective therapies to prevent or cure the Migraines and all the other variants, sicknesses, signs and symptoms, consequent to the three Fluids Hypertension Syndromes?

- Answer: The most effective therapy to all Migraines, sicknesses, other signs, and symptoms is removing from the patient the etiologies which can be removed:
  1- Abstinence of caffeine from coffee, tea, caffeinated soft drinks, chocolate, and medicament.
  2- Abstinence of wine and beer drinks.
  3- Reduction of excessive liquid drinks.
  4- Reduction of visual strain.
  5- Use of precise spectacles and contact lenses.
  6- Reduction of emotional stress.
  7- Treatment of visceral disturbs.
  8- Avoidance of heavy meals.
  9- Avoidance of any meals and drinks until three hours before sleeping.
  10- Turn off the light and TV set at the bedtime.
  11- Reduce any drug that raise the fluids pressures.
  12- Regularize the sleeping hours.
  13- Regularize the sexual activity.
  14- Respiratory exercises daily.
  15- Sleeping with a high pillow.
  16- Some physical activity with head-up and free breathing. Aerobic exercises.
  17- Medicament: eye drops that lower the intraocular pressure, and Acetazolamide per-oral, that lower all the fluids' pressures.

With all these measures, the Fluids Hypertension Syndromes become better in few hours or days; the Migraines, variants and all the other alternative signs and symptoms reduce or vanish, never returning as long as the patient keeps the treatment. Consequently, **most patients cure for life, and the definitive damage caused by these illnesses never occur.**

Any medical doctor with this knowledge, good rapport and empathy with the patient, can prevent, improve or cure most of the above listed hundreds signs, symptoms and sicknesses.

The cured patients stop their sufferings, and they like it. They also stop expending time and money with physicians, hospitals, medicament, exams and surgeries, which have economic implications.

The complete text of this work is on the following pages, or it can be found free at: [www.izecksohn.com/leonardo/](http://www.izecksohn.com/leonardo/)

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**Index**

**Contents:**

1) - Definitions in this work.
I) - Definitions in this work

1- Fluids Hypertension Syndromes are the wholeness excess of fluids ingress over exit in five of the body's inelastic closed spaces and fluids filled, consequently raising their inner fluids pressures, and causing signs, symptoms and sicknesses. These spaces are:

a) Two Eyes, causing the Ocular Hypertension Syndrome.
b) One Cerebrospinal, causing the Cerebrospinal Fluid Hypertension Syndrome.
c) Two Inner Ears, causing the Inner Ears Hypertension Syndrome.

These rising fluid pressures, felt as Migraines, primary headaches and many other interchangeable signs and symptoms known as Migraine variants, can result in many sicknesses as Normal (Peak) Tension Glaucoma, Benign Intracranial Hypertension, Labyrinthitis, Sensory neural Deafness, and many others.

2- Migraines and headaches are the symptoms usually caused by the intraocular, cerebrospinal fluid and inner ear pressures rise. We classified the headaches and migraines by the site that aches, their etiologies and the Optic Nerve’s disk visible disturbs.

The International Classification of Headaches Disorders (ICHD-IIR1) from the International Headache Society, and the old Classification and Diagnostic Criteria for Headache Disorders, Cranial Neuralgias and Facial Pain are interesting, but useless.

3- Migraine’s Variants are the signs and symptoms felt together or alternatively to migraines or head pains.
4- **Glaucoma**, or Glaucomaticous damage, or glaucomatous Optic neuropathy is the death of some Optic Nerve’s fibers in the Optic nerve and their respective ganglion cells in the retina, caused by occasional or steady rises of intraocular pressure. It can cause a loss of a visual field portion.

5- **Normal (Peak) (Low) Tension Glaucoma** is the glaucoma caused by occasional rises of the intraocular pressure. The patient seated at the medical office usually presents his intraocular pressure of 21 mmHg or less measured with the Goldmann applanation tonometer.

6- **High-Tension Glaucoma** is the Glaucoma caused by a steady rise of the intraocular pressure. The patient seated at the medical office usually presents his intraocular pressure of 22 mmHg or more with the Goldmann applanation tonometer. (Hulsman C A, and others).

7- **Optic Nerve’s Disk** is the entirety of Optic Nerve’s fibers limited by the inner border of the Scleral canal.

8- **Optic Nerve Disk’s Cup Diameter** (Cup/Disk ratio) is the biggest cup diameter in the Scleral canal, related with the Optic Nerve’s Disk diameter.

   For statistical purposes, we adopted the following simplified ophthalmoscopic criteria:

9- **Suspected of Glaucoma** is a patient with Optic Nerve’s cup diameter of 0.6 of the Optic Nerve disk, (Cup/Disk ratio = 0.6), with:
- Deepness of 3 or 4 dioptre (maximum), or
- Any visibility of the Lamina cribosa's pores, grades:
  1 = feebly visible,
  2 = well visible,
  3 = perfectly visible.

10- **Incipient Glaucoma** is a patient with Optic Nerve’s cup diameter of 0.7 of the Optic Nerve disk, (Cup/Disk ratio = 0.7), with:
- Deepness of 3 or 4 dioptre (maximum), or
- Visibility of the Lamina cribosa pores, grade 3 (perfectly visible).

11- **Advanced Glaucoma** is a patient with Optic Nerve’s cup diameter of 0.8, 0.9 or 1 of the Optic Nerve disk, (Cup/Disk ratio = 0.8, or 0.9, or 1.0), with:
- Deepness of 3 or 4 dioptre (maximum), or
- Visibility of the Lamina cribosa pores, grade 3 (perfectly visible).

   Usually his Optic Nerve aspect with the direct ophthalmoscope is the “bean pot” cupping.

12- **Benign Intracranial Hypertension (Idiopathic Pseudo-tumor Cerebri)** is the Cerebrospinal Fluid Hypertension when there is an Optic Nerve’s disk edema of 1 dioptre or bigger, with no medically detectable etiology.

13- **Measures:**
- Mercury millimeter (mmHg).
- Milliliter (ml).
- 30 milliliter = 1 fluid ounce.
- 473 milliliter = 1 pint.
- 3,785 milliliter = 1 gallon.
- 1 Kilogram (Kg) = 2.2 pounds = 2.2 * 453 grams.
- 1 Dioptre = Unit of measurement of the refractive power of lenses.
- 1 Meter = 3 feet and 3 inches = (3 * 12 + 3) * 2.54 cm

14- **Abbreviations:**
C/D = Cup/Disk ratio.
ON = Optic Nerve.

15- Sicknesses denominations: Although most of the mentioned aches, signs, symptoms and sicknesses are acute or episodic, when they recur periodically for some months, the medical doctors usually denominate them as “chronic”. When the physicians do not know their etiologies, they denominate them as “allergic”, “idiopathic”, “primary” or “nervous”.

16- Caffeine poisoning, allergy, intoxication or intolerance: It is the pathogenic effect of the caffeine in the patient. “The term “food intolerance” is used to denote reactions to food which do not involve a known immune mechanism.” (Steinman H). Other authors denominate it as “caffeine allergy”, “caffeine anaphylaxis”(Whalen R), “caffeine poisons”, "toxicant-induced loss of tolerance", and “cerebral allergy”.

17- Risk factor, Etiology and Worsening factor:
- Risk factor or predisposing factor is the factor which presents statistical risk to cause some pathology.
- Etiology is the risk factor actually causing some pathology in the patient. Some patients can cure removing from them the etiologies which can be removed. There are risk factors (or etiologies) which can not be removed, as inheritance and aging.
- Worsening factor is the risk factor or etiology that worsens some pathology caused by other etiology or risk factor. The most common worsening factor of all these disturbs is the caffeine.

II) – Objective:

Description of the Ocular, Cerebrospinal and Inner ear Fluids Hypertension Syndromes, felt as Migraines, Headaches, Rhinitis, Sinusitis, Otitis and many other interchangeable signs and symptoms known as Migraine variants, rise of Intraocular Pressure, Normal (Peak) Tension Glaucoma, Benign Intracranial Hypertension, Inner Ear sicknesses, and other related disturbs.

Description of their etiologies, occurrence statistics, pathogenic habits, diagnoses, differential diagnoses, pathophysiologies, long-term evolution of Migraine and Optic Nerve’s disk cup, prevention, therapies and sometimes their cure.

*Between the thousands patients we had with these syndromes, we described some remarkable ones.*

III) – Method:

Contents:
III-1 – Introduction.
III-2 – Anamnesis detailing the patient’s complaints.
III-3 – Optic Nerve’s disk direct ophthalmoscopy.
Scheme III-1: Optic Nerve’s disk with a physiologic cup 0.4/2/0/0.
Scheme III-2: Optic Nerve’s disk 0.7/3/3/0.
Scheme III-3: Optic Nerve’s disk 0.5/3/1/0.25.
Scheme III-4: Optic Nerve’s disk 0.2/1/0/0.5.
Scheme III-5: Optic Nerve’s disk 0.1/1/0/0.75.
Scheme III-6: Optic Nerve’s disk 0/0/0/1.
III-4 – Ocular applanation (Goldmann) tonometry.
Scheme III-7: The true intraocular pressure with the Goldmann applanation tonometer.
III-5 – Ocular refraction and other exams.

III-1 – Introduction: Through more than 40 years of medical ophthalmological practice at Brazil, we examined more than 100,000 outpatients with some ocular complaint, at our private medical office. In many of them we repeated the same exam after some years and noted their evolution.
Our research began around the year 1980, trying to discover why some patients got the denominated “Low-tension Glaucoma”, some drinkers got red eyes, and other patients and drinkers did not get them. We were most inquisitive about the fact that some patients did not present these disturbs, and after some years they did present them. At that time, we researched at all directions and possibilities. Systematically and warily, we discovered the details examining our patients, asking and mainly hearing from them. Some discoveries were astonishing.

We began discovering in our patients the Intraocular Pressure Headache, first reported at the year 1996. As the observations were changing our first suppositions, we changed the reports and sent them to more than 200 medical doctors ophthalmologists, health organizations, medical publications and associations world abroad. With rare exceptions, they never answered anything.

On the year 2002, we published the 30th report in Portuguese at the “Jornal Brasileiro de Medicina” spread to 40,000 Brazilian physicians. No one of them manifested anything.

We continued studying other doctors theories, daily questioning ourselves, testing all possibilities, examining and medicating the patients, and making statistics to prove or reject each theory. We utilized the already established medical definitions and classifications when feasible, and made new ones when necessary. Some of these primitive statistics and conclusions were published at Internet as the 49th report, on the year 2005.

We finally planned to clarify our last doubts: we made one big statistic concerning only the first ophthalmological examination of 1,270 consecutively examined outpatients on the year 2005, who independently came to our ophthalmological clinic: We searched after the Primary Headaches disorders and variants. We excluded the patients already examined, medicated or suffering with any sickness known to cause headaches, or likely complaining false aches. The main sheet had 1270 rows and 167 columns: 65 columns with possible signs, symptoms and sicknesses, in addition to 17 columns of possible grouped etiologies, and more 85 columns of correlations between them. This main sheet originated another 75 sheets to individually analyze each correlation. Now we know that we missed many important etiologies, as chocolate and smoking. Its full analysis took more than one year. Many tables were discarded. The descriptions of these findings and conclusions were the 60th and following reports, until this one, now at Internet.

To enable the understanding we excluded many statistical analysis, although their importance, because they turned the already big and multiple tables no-understandable.

From that year on until now, we daily looked for other doctors studies and completed this portrait of these disturbs, their etiologies, pathophysiologies, therapies, and included the description of some our typical patients.

We have corrected and amplified this e-book with other doctors findings near monthly. These more than 750 doctors, here quoted, discovered much more than we did.

Our patients were Brazilian, mean age of 38.7 years, standard deviation of 18.4 years, gender female = 772 (60.8%), male = 498 (39.2%), with all Brazilian ethnicity.

We systematically examined these patients by the following method:

**III-2 – Anamnesis detailing the patient’s complaints.** We ask to the patient his/her details about:

- Main occupation.
- Age.
- Eyeglasses already in use.
- Head's aching place: show with the finger. Time of aches beginning. Or on awakening? Duration.
  - Trigger. Other symptom?
- Eyes: itch, tear-fullness, swell, redness.
- Rhinitis, sinusitis, sneezes, dry cough.
- Is taking some medicament? Which one? Any sickness?
- Wine, beer? When and how much daily? Hangover on the next day?
- Coffee? When and how much daily?
- Tea? Which, when and how much daily?
- Cola, guaraná, other soft drink? Which, when and how much daily?
Chocolate? When and how much daily?
Water: how many glasses at morning, lunch, afternoon, dinner, before sleeping. Glasses size.

We classified our patients by the place that aches, other characteristics, and all etiologic possibilities. We excluded from this statistic those patients with headaches secondary to sicknesses as infections, tumors, trauma, hemorrhages, etc.

**III-3 – Optic Nerve’s disk direct ophthalmoscopy** (ocular fundus examination) in a dark room, with red-free light in the direct ophthalmoscope, carefully registering subtle characteristics, as:

- a- Optic Nerve’s cup/disk diameter ratio.
- b- Cup deepness.
- c- Laminar pores visualization at the cup’s bottom.
- d- Minimal borders’ edema.
- e- White sheaths around the arteries and veins at the Optic Nerve’s Disk.

**We utilized the following Optic Nerve’s Cup/Disk scales**, observed on direct ophthalmoscopy:

**a- Cup Diameter** (cup/disc diameter ratio): Evaluation of the widest cup diameter, in tenths from the total Optic Nerve’s disk diameter:
From 0 = none; 0.1, 0.2, 0.3, ……… to 1.0=maximum.

![Scheme III-1](image)

**Scheme III-1:** Direct ophthalmoscopic view of Optic Nerve’s disk with a physiologic cup 0.4/2/0/0, showing ruler. (0.4 = Cup-Disk diameter/ 2 = Cup depth/ 0 = no Lamina Cribosa’s pores visibility/ 0 = no border edema) = Healthy or physiologic. This is the widest and deeper Optic Nerve’s cup that indeed is physiologic (healthy).

**b- Cup Deepness in dioptre**, from the Optic Nerve’s disk upper border to the cup’s bottom:
0 dioptre = no cup;  
1 dioptre;  
2 dioptre;  
3 dioptre;  
4 dioptre = maximum cup deepness.  
We measured the cup deepness focusing the direct ophthalmoscope lenses, up and down.

c- **Pores Visibility at the Cup’s Floor of the Optic Nerve’s Disk**, or Lamina cribosa pores visibility at the bottom of the Optic Disk cup, observed with direct ophthalmoscopy:

0 = no visible,  
1 = feebly visible,  
2 = well visible,  
3 = perfectly visible.

**Scheme III-2:** Direct ophthalmoscopic view of Optic Nerve’s disk 0.7/3/3/0 (0.7 = Cup-Disk diameter/ 3 = Cup depth/ 3 = Lamina cribosa pores perfectly visible / 0 = no border edema) = Incipient Glaucoma.

d- **Optic Nerve’s disk borders edema**, known as Papilledema:

0 dioptre = none, physiologic, “normal”;  
0.25 dioptre = minimum blurring only at a small part of the disk’s margin, usually at the inferior border.  
0.5 dioptre = evident borders edema, or minimum superior and inferior borders simultaneously.  
0.75 dioptre = evident Optic Nerve’s borders edema, but not complete and not reaching 1 dioptre.  
1.0 dioptre = edema of complete Optic Nerve is visible 1 dioptre above the level of the retina.  
2 dioptre = maximum Optic Nerve’s borders edema, visible 2 dioptre above the level of the Retina.
Scheme III-3: Direct ophthalmoscopic view of Optic Nerve’s disk 0.5/3/1/0.25 (0.5 = Cup-Disk diameter/ 3 = Cup depth/ 1 = Lamina cribosa's pores feebly visible / 0.25 = border edema): Beginning of both Cerebrospinal Fluid Hypertension and Ocular Hypertension Syndromes.

The medical doctor must not confound this Optic Nerve’s borders edema with Myelin Sheaths (or Myeline fibers) at the Optic disk and retina, which are congenital, permanent, and have nothing with the Cerebrospinal Fluid Hypertension Syndrome.

Some computerized exams misinterpret this Optic Nerve's borders' fibers edema as more Optic Nerve fibers, showing a healthier Optic Nerve than it really is. The best exam to see this small borders edema is the direct ophthalmoscope with red-free light. The Retinography, or the photography of the retina, can show this Optic Nerve's borders edema, but the ophthalmologists usually ignore it.
e- White sheaths around the arteries and veins at the Optic Nerve’s Disk:

**Scheme III-4**: Direct ophthalmoscopic view of Optic Nerve’s disk 0.2/1/0/0.5 (0.2 = Cup-Disk diameter/ 1 = Cup depth/ 0 = no Lamina cribosa's pores visibility/ 0.5 = borders edemas) and white sheaths around the arteries and veins at the Optic disk: Evident Cerebrospinal Fluid Hypertension Syndrome.
Scheme III-5: Direct ophthalmoscopic view of Optic Nerve’s disk 0.1/1/0/0.75 (0.1 = Cup-Disk diameter/ 1 = Cup depth/ 0 = no Lamina cribosa's pores visibility/ 0.75 = borders edemas) and white sheaths around the arteries and veins in the Optic Disk = Advanced Cerebrospinal Fluid Hypertension Syndrome.
Scheme III-6: Direct ophthalmoscopic view of Optic Nerve’s disk 0/0/0/1 (0 = no Cup-Disk diameter/ 0 = no Cup depth/ 0 = no Lamina cribosa's pores visibility/ 1 = borders edemas) and white sheaths around the arteries and veins at the Optic Disk = Advanced Cerebrospinal Fluid Hypertension Syndrome.

The medical doctors usually denominate as “Papilledema” the Optic Nerve (ON) disk edema of at least 1 dioptre, as shown by the Scheme III-6 above, or bigger. These giants ON disk edemas can cause disk hyperemia, retinal small hemorrhages, exudation and cotton-wool spots, concentric choroid and retinal folds known as Patton lines, blurring of vision, constriction of the visual field and decreased color perception. Chronic giant papilledema eventually can progress to loss of central visual acuity and total blindness. Some physicians denominate this as “Retinal migraine”, “Idiopathic Intracranial Hypertension” or “Pseudotumor cerebri”.

This giant Papilledema is rare on our ophthalmological office:

We had only one patient with 1.5 and 1 dioptre papilledema in her right and left eyes, between the other 781 patients with only 0.25 up to 1 dioptre ON edemas this year. She was a 69-year-old woman, with Hyperopia, weighting 59 kilograms(130 pounds), who drank 4,000 milliliters (more than a gallon) of water each day, in order to prevent renal stones. As the medical doctor who taught her to drink all those water, did not tell her to stop the caffeinated soft drinks and coffee she also drank daily, she was producing new renal stones regularly, because they are caused by the caffeine. On our ophthalmological office, she was complaining about chronic obstructive rhinitis and sneezes, besides the new eyeglasses she needed. This is a typical Cerebrospinal Fluid Hypertension Syndrome and respective sign (giant papilledema with peri-vascular white sheaths) and migraine variant symptoms (obstructive rhinitis and sneezes).
This is a dangerous situation which can cause many definitive and serious damage to this patient, all caused by the Cerebrospinal Fluid Hypertension Syndrome. They are listed above at the Summary.

In this E-book we study the very common small Cerebrospinal Fluid Hypertension, and not the rare giant Papilledema.

III-4 – Ocular applanation (Goldmann) tonometry. We ever measure the intraocular pressure with the patient on a sitting position at the slit-lamp, quietly, with one drop of anesthetic (Proximetacaine cloridrate) eye drop, Fluorescein at the tip of the tonometer, and gentle relief of both eyelids’ pressures from over the eyes. The upper eyelid is held by the first and the second fingers, and the inferior eyelid is held by the fourth finger, without any pressure on the eye. The third finger rests my hand on the patient's front or on the slit-lamp's front rest. The patient must be confident, because if he is stressed the contraction of the extra-ocular muscles can cause a false rise in his intraocular pressure.

When there is marked intraocular pressures oscillation consequent to the cardiac pulse, we utilize the higher value. We considered as physiologic the intraocular pressure from 10 up to 16 mmHg.

“Attempted forced eyelid closure is a common and statistically significant source of error in routine outpatient measurement of intraocular pressure and could influence clinical management of glaucoma.” (Gandhi P D, and others).

Scheme III-7: The true intraocular pressure is measured with the Goldmann applanation tonometer tip only touching the cornea. The eyelids can not contact with the eye or with the tonometer tip. The fingers can not pressure the eye.

III-5 – Ocular refraction and other exams when necessary.

IV) – Description of Migraines; distribution of Migraines, Benign Intracranial Hypertension and Glaucoma by gender and age:

IV-a- Description: From 1,270 consecutively examined ophthalmological patients, 931 (73.7%) complained of recurrent or continuous headaches, migraines or other interchangeable signs and symptoms or migraine variants on their first exam. The aching sites were alternatively at the frontal, occipital, temporal, posterior neck location, diffuse, or as an ocular ache, on the nose, ears, or rarely on the maxilla or mandible.
The Migraines were commonly bilateral; the unilateral were the hemicranias. Some bilateral Migraines were on the top of the head. They were described as “weight”, “stitch”, “burning” or “stabbing”.

On the examination, some patients spontaneously complain mainly about their Migraines. Other patients only mentioned their aches (pain) when carefully asked about them.

IV-b- Distribution of ours 1,270 patients, with and without Migraines, and Glaucoma, by gender (Table IV-1):

<table>
<thead>
<tr>
<th>Patients</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>498</td>
<td>772</td>
<td>1,270</td>
</tr>
<tr>
<td>With Migraine</td>
<td>341</td>
<td>590</td>
<td>931</td>
</tr>
<tr>
<td>Without Migraine</td>
<td>157</td>
<td>182</td>
<td>339</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cup/Disk ratio (C/D)</th>
<th>Suspects of Glaucoma C/D=0.6</th>
<th>With incipient Glaucoma C/D=0.7</th>
<th>With advanced Glaucoma C/D=0.8</th>
<th>With advanced Glaucoma C/D=0.9</th>
<th>With advanced Glaucoma C/D=1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>39</td>
<td>30</td>
<td>18</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>7.8%</td>
<td>6%</td>
<td>3.6%</td>
<td>1.6%</td>
<td>0.2%</td>
</tr>
<tr>
<td></td>
<td>66</td>
<td>54</td>
<td>12</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>8.5%</td>
<td>7%</td>
<td>1.6%</td>
<td>1%</td>
<td>0.8%</td>
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<td></td>
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<td>0.8%</td>
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<td>0.8%</td>
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</tr>
</tbody>
</table>

Table IV-1: Distribution of Migraines and Glaucoma from 1,270 patients, by Gender.

- **Distribution of all Migraines by Gender:** From our 1,270 patients, out of 498 men, 341 (68.5%) of them felt Migraines; out of 772 women, 590 (76.4%) of them felt Migraines (Table IV-1).

We conclude that although both men and women feel Migraines, the women feel more migraines than the men do (76.4% and 68.5%).

- **Distribution of Glaucoma by Gender:** From our 1,270 patients, with Glaucoma we had:
  - 105 suspects of Glaucoma, which had at least one Optic Nerve’s disk with cup/disk ratio of 0.6, and deepness of 3 or 4 dioptre or with visibility of the Lamina cribosa grades 1 to 3; out of these 105 patients, 39 were men (7.8% out of 498) and 66 women (8.5% out of 772).
  - 84 patients with Incipient Glaucoma, that had at least one Optic Nerves with cup/disk ratio of 0.7, and deepness of 3 or 4 dioptre or with visibility of the Lamina cribosa grade 3. Out of these 84 patients, the men were 30 (6% out of 498), and the women were 54 (7% out of 772).
  - 30 patients with advanced Glaucoma C/D (Cup/Disk ratio)=0.8 with at least one Optic Nerve with cup/disk ratio of 0.8 and with deepness of 3 or 4 dioptre or with visibility of the Lamina cribosa grade 3; the men were 18 (3.6% out of 498), and the women were 12 (1.6% out of 772).
  - 16 patients with advanced Glaucoma C/D (Cup/Disk ratio)=0.9 with at least one Optic Nerve with cup/disk ratio of 0.9 and deepness of 3 or 4 dioptre or with visibility of the Lamina cribosa grade 3; the men were 8 (1.6% out of 498), and the women were 8 (1% out of 772).
  - 7 patients with advanced Glaucoma C/D (Cup/Disk ratio)=1 with at least one Optic Nerve with cup/disk ratio of 1 and with deepness of 3 or 4 dioptre or with visibility of the Lamina cribosa grade 3; the man was one (0.2% out of 498), and the women were six (0.8% out of 772) (Table IV-1).

We conclude that as the glaucomatous damage (glaucomatous optic neuropathy) increase, there are progressively less patients with glaucoma, as men as women.

IV-c – Complaints from 931 patients, of migraines, signs and symptoms, and respective average ages (Each patient with different complaints is included in different lines)
Table IV-2:

<table>
<thead>
<tr>
<th>Migraines and variants presented by men younger than women</th>
<th>Complaints Quantities</th>
<th>Average Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraines, signs and symptoms</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Ethmoid migraines</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>Sneezing</td>
<td>13</td>
<td>42</td>
</tr>
<tr>
<td>Chronic dry cough</td>
<td>21</td>
<td>41</td>
</tr>
<tr>
<td>Diffuse migraines</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>Head-top (vertex) or Temporal</td>
<td>50</td>
<td>143</td>
</tr>
<tr>
<td>Nausea and retching or vomits</td>
<td>16</td>
<td>62</td>
</tr>
<tr>
<td>Blepharitis or itching eyes</td>
<td>74</td>
<td>164</td>
</tr>
<tr>
<td>Eyelid Twitching (trembling)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ocular aches (pain)</td>
<td>52</td>
<td>135</td>
</tr>
<tr>
<td>Photophobia. Light sensitivity.</td>
<td>54</td>
<td>70</td>
</tr>
<tr>
<td>Wide Frontal migraines</td>
<td>111</td>
<td>265</td>
</tr>
<tr>
<td>Matutinal migraines</td>
<td>66</td>
<td>229</td>
</tr>
<tr>
<td>Tearfulness</td>
<td>88</td>
<td>164</td>
</tr>
<tr>
<td>Occipital migraines</td>
<td>32</td>
<td>102</td>
</tr>
<tr>
<td>Eyelid edemas</td>
<td>24</td>
<td>59</td>
</tr>
<tr>
<td>Hemorrhage (under the conjunctiva)</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Pharyngitis, laryngitis or hoarseness</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Miosis</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total of complaints presented by men younger than women</strong></td>
<td>646</td>
<td>1543</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Migraines and variants presented by women younger than men</th>
<th>Complaints Quantities</th>
<th>Average Ages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraines, signs and symptoms</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>Excessive eyelid winks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Otitis</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Obstructive rhinitis (Nasal congestion)</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Menstrual migraines</td>
<td>0</td>
<td>95</td>
</tr>
<tr>
<td>Cheekbone aches (pain)</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Mandible aches (pain)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Sleepiness or upper eyelid ptosis</td>
<td>0</td>
<td>9</td>
</tr>
<tr>
<td>Buzzing</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dizziness - Vertigo</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Ocular Hyperemia (Episcleritis)</td>
<td>67</td>
<td>86</td>
</tr>
<tr>
<td>Amaurosis fugax (Retinal Migraine)</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>Visual Aura. Fortification spectra.</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Bulbar Conjunctival Cystic Edema</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total of complaints presented by women younger than men</strong></td>
<td>117</td>
<td>333</td>
</tr>
</tbody>
</table>

**Total of complaints** | 763 | 1876 | 2639 | **37.5** | **39.1** | **38.6** |

Table IV-2: Complaints from the patients with Migraines, signs and symptoms, their mean ages and gender.

These 931 patients felt 2,639 complaints, with an average of 2.8 complaints per patient. This table shows that most patients feel simultaneously two or more signs and symptoms together.
We conclude that most Migraines, signs and symptoms affected men at younger ages than women, but the difference is little (men at 37.5 and women at 39.1 year-old).

Selecting only the glaucoma patients, we found (Table IV-3):

<table>
<thead>
<tr>
<th>Optic Nerve’s cup/disk ratio</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Patients</td>
<td>Ages</td>
<td>Patients</td>
</tr>
<tr>
<td>Suspect C/D=0.6</td>
<td>39</td>
<td>44.6</td>
<td>66</td>
</tr>
<tr>
<td>Incipient C/D=0.7</td>
<td>30</td>
<td>40.6</td>
<td>54</td>
</tr>
<tr>
<td>Advanced C/D=0.8</td>
<td>18</td>
<td>51.7</td>
<td>12</td>
</tr>
<tr>
<td>Advanced C/D=0.9</td>
<td>8</td>
<td>62.1</td>
<td>8</td>
</tr>
<tr>
<td>Advanced C/D=1</td>
<td>1</td>
<td>80</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>46.5</td>
<td>146</td>
</tr>
</tbody>
</table>

Table IV-3: Patients with Glaucoma, their average ages and gender.

We conclude that the glaucomatous damage (glaucomatous Optic neuropathy) increase together with the patients’ increasing ages, as in men as in women.

“Open-angle glaucoma prevalence increased exponentially with age, with rates of 0.4%, 1.3%, 4.7%, and 11.4% among persons aged less than 60 years, between 60 and 69 years, between 70 and 79 years, and 80 years or older, respectively” (Wang JJ and others).

“Incidence of open-angle glaucoma increased greatly with age, from 2.2% at ages 40 to 49 years to 7.9% at ages 70 years or older, and tended to be higher in men than women (4.9% vs. 4.1%).” (Leske M C, and others).

We conclude that the patients with Migraines were younger, with average ages of men 37.5 and women 39.1-year-old (Table IV-2), than were the patients with Glaucoma, with average ages of men 46.5 and women 44.2-year-old (Table IV-3).

Migraines and beginning of Normal Tension Glaucoma at young age. We had a patient with 10-year-old boy, with great-grandfathers from Africa, Portugal and Brazilian Indians. His weight was 26 kilograms (57 pounds), and he was 1.32 meters (4 feet and 4 inches) tall. For the last 5 years, he was complaining about wide frontal Migraines, obstructive rhinitis, allergic sinusitis, eyes itching, sneezes at awakening and dry cough at night. Sometimes he had nausea, retching and vomits. After many exams, his Pediatrician and his Neurologist found no explanation to all of this. The Ophthalmologist suspected about something wrong at his Optic Nerves’ disks and asked other exams which his family could not afford. He was a drinker of cola soft drink 500 milliliters (a little more than 1 pint) and homemade juices and refreshments 2,500 milliliters (three quarters of a gallon) each day.

On the ophthalmological exam, we found no eyeglasses needs, deep physiologic anterior chambers and intraocular pressures of 14 mmHg in both eyes, which is physiologic. On the direct ophthalmoscopy, his optic nerves show cups of 0.5/3/3/0.75 and 0.6/3/3/0.75 right and left eyes (cup diameter/cup depth/ lamina Cribosas’ pores visibility/ borders edema). This characterizes the simultaneous damage caused by the Ocular and the Cerebrospinal Fluid hypertensions, which explained all his signs and sympotms. These two fluid hypertensions were occurring in his eyes, together on the same days but not on the same hours. The left eye damage we classify as Suspect Normal (Peak) Tension Glaucoma, and the right eye was very near of this. He was suffering since 5-year-old, and obviously, the damages began to develop at that age.

We taught him to stop all caffeinated soft drinks and to shorten the daily liquids to only his thirst needs, without any medicament. After one week of aches, he became better from almost all his symptoms. Provided he keeps these drinks restriction for life, he will no more suffer or evolve to the advanced glaucoma.
V) Migraines Intensities linked with Intraocular Pressures and other conditions:

Contents:
V-a - Migraines intensities classification.
Graph V-1 (schematic): Intensities of Migraines, Headaches and Migraine variants.
V-b – “Pain is one of Nature’s earliest signs of morbidity”.
V-c - Migraine's recurrence.
V-d - Status Migranosus.
V-e- Migraines and few intraocular pressures reliability.
V-f – Conditions of Intensities of Migraines or Headaches.
V–g- Ocular Migraines. co-morbidity and evolution.
V-h- Optic Nerve's borders edema evolution.

V-a - Migraines intensities classification.
We classified the Migraines intensities (Graph V-1) as:
0: No Migraine.
1: Small Migraine, well tolerated, only confirmed when asked about.
2: Moderate Migraine, complained by the patients among other symptoms.
3: Strong Migraine, many times spontaneously complained about during the first examination.
4: Very strong Migraine, intolerable.

The intensity of the Ocular Migraine was consequent from a mild and evanescent rise of intraocular pressure, as we see in the Graph V-1, published at the year of 2002 (Izecksohn L and Izecksohn C.).

Other authors also found similar relations between Migraines and intraocular pressure rise:
“Pain in migraine attacks including occipital and nape discomfort reflects selective involvement of the Ophthalmic nerve. Photophobia is largely a retinal reflex involving the Ophthalmic division of the trigeminal nerve. Key clinical features of the migrainous scintillating scotoma are consistent with retinal origin. ... Several first-line migraine prophylactic agents lower the intraocular pressure.” (Gupta, V K).
Graph V-1 (schematic): Intensities of Migraines, Headaches and Migraine variants (vertical from 0 to 4) linked with their Intraocular Pressures (horizontal from 14 to 26 mmHg). Modified from Izecksohn L and Izecksohn C.

As shown by Liu and others, the average intraocular pressure of healthy eyes, on diurnal period, on the sitting position, is between 15.9 to 16.7 mmHg.

We conclude that the patients feel higher ocular aches intensities when presenting intraocular pressures between 17 to 21 mmHg. The intraocular pressures lower than 17 mmHg do not ache because they are physiologic; those pressures higher than 21 mmHg ache very little, if at all. The patients feel the eye aches mainly as Cluster Migraines, but they can feel other migraines or variants.

We could not measure the Cerebrospinal fluid, Perilymph and Endolymph pressures, but according with the observations of our patients’ aches, we suppose that they follow a relation between their pressures and aches, similar to the relation of the intraocular pressures and respective aches.

V-b – “Pain is one of Nature’s earliest signs of morbidity” (Adams R D and Resnik W H.). “The patient feels the Ocular Migraine or headache each day because at some hours his intraocular pressure overpasses its healthy value. After repeated examinations of thousands of patients with Ocular Migraines, we observed that they had an intraocular pressure limit without Migraine up to 16 mmHg, and their Migraine or variants manifested with 17 mmHg until 21 mmHg”. (Translated from Portuguese) (Izecksohn L and Izecksohn C.). When the intraocular pressure overpasses 22 mmHg, the Ocular Migraines become mild, rare, or disappear.

The patients rarely feel the Migraine or migraine variant of intraocular pressure rise out of these limits. In the patients with low arterial pressure and in the children, the intraocular pressure limit that can cause Ocular Migraine is lower, about 14 mmHg. In the patient with arterial hypertension, this limit is higher.

V-c - Migraine's recurrence: The Ocular Migraine usually begins at awakening hour, when the intraocular pressure is a little higher than the diurnal pressure (Liu J H K, and others), and disappears after few hours, when the intraocular pressure physiologically diminishes: it is an evanescent Migraine. Meanwhile, all three Fluids Hypertension Syndromes can present Migraines at any hour, depending on their Etiologies or Risk Factors. The Migraines or variants recur almost every day when the cause is the daily variation of the fluids' pressures with some daily etiology, or every week when the main etiology is some weekly drinking habit, or monthly when the main etiology is the monthly female cyclic hormonal variation.

As the personal habits are recurrent or cyclic regularly, the Migraines usually recur at the same time, over the years. A migraine classification based on its recurrence is only classifying the recurrence of its etiology.

V-d - Status Migranosus: All three Fluids Hypertension Syndromes can present continuous Migraines for days, which usually is denominated as Status Migranosus. This occurs because two possibilities: a- The patient is taking the main etiology daily, even during the migraine, as a caffeinated analgesic, per example; or b- The patient's body has difficulty in expelling the etiologies, as caffeine and water, from the eyes, intracranial space or inner ears, or from the blood and interstitial space.

V-e- Migraines and few intraocular pressures reliability:
The Migraines in our patients were very frequent and disturbing, but they were not reliable symptoms nor ever simultaneous with the rise of their intraocular pressures. Some patients, mainly men, never felt Migraines even when their intraocular pressures were between 17 and 21 mmHg. Other patients feel Migraines caused by the rise of the Cerebrospinal fluid pressure, which causes the Cerebrospinal Fluid Hypertension Syndrome, and we can not measure it.

Frequently the patient’s aches happen after the pressure’s peak, when there is a reduction of his intraocular or Cerebrospinal Fluids’ pressures. This commonly happen with the beginning of the intraocular pressures reduction after medicating with eye drops, but also can happen at other occasions.

In some patients, one eye felt the Migraine and the other eye, with the same rose intraocular or Cerebrospinal Fluid pressures, did not feel it, and this resulted in hemicrania. The same mechanism probably happens with the Inner ears’ Perilymph or Endolymph hypertension, which also cause hemicranias and earaches diagnosed as “allergic Otitis”, caused by the Inner Ears’ Hypertension Syndrome.

V-f – Conditions of Intensities of Migraines or Headaches: We observed in our Migraine patients that:
– Only the patients that fulfilled all these I to V below conditions felt the greatest intensities of Ocular Migraines, which are the intensities 3 and 4:
  I - Were women.
  II - Had physiologic Optic Nerves with none or minimal damage, as Cup or Edema.
  III - Were between the ages of puberty and 30-year-old.
  IV - Had intraocular pressure oscillating above and below 17 mmHg.
  V - Drank caffeine, which is as an etiology as an aches intensifier.

The patients who felt small and moderate intensities of Migraines, which are the intensities 1 and 2, were those above, and those who had moderate cup or edema of the Optic Nerve’s disk.

The patients who rarely or never had Migraines, which are the intensities 1 and 0, were those above and those that even with risen intraocular pressure fulfilled at least one of the following I to VIII conditions:
  I - Were 50-year-old or more.
  II - Their intraocular pressures rose and lowered exclusively during sleeping hours.
  III - Had increased cup of the Optic Nerve’s disk, with Glaucoma, as high-tension as Normal (Peak) tension ones. The dead Optic nerve doesn't ache any more.
  IV - Had increased edema of the Optic Nerve’s disk and Benign Intracranial Hypertension.
  V - Had simultaneously non-medicated arterial hypertension.
  VI - Their intraocular pressures remained always higher than 18 mmHg.
  VII - Were men.
  VIII - They drank beer together with some analgesic with caffeine to prevent the hangover: “One pill before and one pill after”. On Brazil, this is the merchandising of a famous pill for hangover. This causes an open angle glaucoma without feeling anything!

V–g- Ocular Migraines. co-morbidities and evolutions: After many years of sufferings, the Migraines intensities attenuate after the age of forty years and almost disappear after the age of sixty, with any intraocular pressure and any cup’s size of Optic Nerve’s disk. In the patients with intraocular pressure of 17 mmHg or more or with Cerebrospinal Fluid Hypertension, the Migraines are replaced by ocular itching, tearfulness, chronic rhinitis and light sensitivity (photophobia). Other physician denominated this as “late-life migrainous accompaniments”.

Those patients who rub their eyes present various kinds of recurrent blepharitis or conjunctivitis, as infectious as similar to allergic ones, and they only cure lowering their intraocular and Cerebrospinal fluid pressures.
“The 50 years or older age group presented lesser acute migraine attack and lower prevalence of migraines. This older group decreased the headaches with aura, stress as a trigger, photophobia, phonophobia, dizziness - vertigo, throbbing, pressure, stabbing, nausea, vomiting, temporal location, headache days, recurrences and aggravation of headache by activity. This group of 50 year-old or more presented increase of the neck location, running of the nose and tearing of the eyes.” (Kelman L).

We observed on our patients that those above three symptoms that Doctor Kelman found as increasing in the older age group, neck location, running of the nose and tearing of the eyes, are typical from the intraocular pressure rise, which can evolve to the glaucoma.

One patient similar to other thousands: Migraines warning the future Glaucoma. We had a 40-year-old handsome Mulatto (50% Black, 25% Indian, 25% Portuguese), with 1.71 meters (5 feet and 7 inches) tall, weighting 69 kilograms (152 pounds). Since his twenties, he suffered with strong hangovers at awakening after the night beers. From the last 4 years he is suffering daily with wide frontal and bi-temporal migraines, so at awakening, so during the entire day. He also complained about chronic rhinitis with coryza, sneezing for 10 minutes each night, photophobia so intense that he used dark glasses, eyes itching and tearfulness. He was a daily drinker of coffee 250 milliliters (8 fluid ounces), cola soft drinks 300 milliliters (10 fluid ounces), and some days one can of beer (10 fluid ounces). To heal his migraines, he drank caffeinated analgesics, 2 tablets each day. On the ophthalmological exam, he presented the need of eyeglasses for near vision, intraocular pressures of 20 mmHg on both eyes (which is a little high), and shallow anterior chambers. On the direct ophthalmoscopy, his Optic Nerves’ disks show 0.5/3/2/0 in both eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the beginning glaucomatous damage caused by the Ocular Hypertension. The cup diameter of 0.5 and depth 0.3 are not yet glaucoma and could be physiologic, but the Lamina Cribosa’s pores visibility 2, only occurs with the Optic Nerve’s damage caused by the rise of the intraocular pressure, probably higher than these 20 mmHg, when he is sleeping. We prescribed him a daily eye drop to lower his intraocular pressures, and to stop all caffeine and beer. After one month he came back for another exam, all cured. He mentioned that once two weeks ago, he drank some beers at Friday, Saturday and Sunday, and only felt headaches at Tuesday morning, and never more. His Optic Nerve’s disks remained the same. His intraocular pressures show 14 mmHg in both eyes, which is physiologic.

Here we see a patient with eyes predisposed anatomically to Glaucoma by inheritance, warning its beginning with 20 years of many Migraines and other signs and symptoms. This is the Ocular Hypertension Syndrome. How many sufferings he felt, so easily to prevent and cure. While he follows this treatment, he will stay free from all those Migraines, signs and symptoms for life, and will not evolve to the Glaucoma. Alternatively, he would suffer for many more years and reach the glaucoma. This patient got the right choice, and in time.

V-h- Optic Nerve’s borders edema evolution:

With the treatment and reduction of Cerebrospinal fluid pressure, the Optic Nerve's borders edema reduces after some months or years, but hardly disappears completely. The gray and high aspect changes to a permanent gray-whitish and flat one, as borders atrophy around the Optic disk, known as “peripapillary disk atrophy beta zone”, which is common on glaucoma. Sometimes there remains sheaths around the vessels at the Optic Disk. Those patients that followed our treatment never developed any optic neuropathy related to the optic nerve edema, as the “Age-related macular degeneration”.

Without the correct treatment, the Cerebrospinal Fluid Hypertension Syndrome can cause many years of sufferings, resulting in definitive blindness.

When the treatment with eye drops reduces only the intraocular pressure, and the patient keeps the excessive drinks, the Optic Nerve’s border edema can appear or increase, caused by the rise of the Cerebrospinal fluid pressure on the other side of the Lamina cribosa.
- **Migraines and visual darkening caused by the caffeine:** We had on the year of 1994 one woman with 26-year-old, at the seventh month of her 1st pregnancy, office worker, complaining of diffuse headaches for one week. She also complained about a left hemi-field visual darkening once, that endured for about 25 minutes. She doesn’t know precisely, but her face, hair and skin color show that she had heredity of around half Indian, a quarter Black and a quarter White. Consequently, she was a true Brazilian Mulatta. On ophthalmologic examination, we found only intraocular pressures of 20 and 18 mmHg in right and left eyes, which are a little high and could explain her headaches. She needed no eyeglasses, and all the rest of the ophthalmological examination was physiologic (normal). At that time we did not know what to ask, what to look for, and what to prescribe.

On the year 2007 she came again, having suffered all those years with nausea, wide frontal headaches on awakening, dizziness, photophobia, right inferior eyelids trembling, and occasionally the same left visual darkening for about twenty minutes each time. Now she is 39-year-old, 1.57 meters (5 feet and 2 inches) tall, 52 Kilograms (114 pounds) of weight, and presents chronic inferior eyelids edemas. Inquiring carefully, we discovered that she daily drank milk 1,000 milliliter (2 pints), coffee 100 milliliter (3 fluid ounces) and caffeinated soft drinks 600 milliliter (20 fluid ounces). She needed eyeglasses for near work. Besides this, in her direct ophthalmoscopy we found Optic Nerve’s disks with 0.3/2/0.5 and 0.4/3/0.5 in the right and left eyes (Optic disk cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), configuring the Cerebrospinal Fluid Hypertension Syndrome, which explains all those signs and symptoms she had suffered for continuous 13 years. Those sufferings were a too much high price from the pleasure of daily drinking caffeine, on a person genetically highly susceptible to it. We prescribe her only to stop all caffeine.

Now, at the year of 2008, she came **without all those sufferings**. She presents a peaceful aspect. She stopped the caffeinated coffee and soft drinks. Her direct ophthalmoscopy was almost the same, but that 0.5 borders edemas in both Optic Nerves was substituted by a flat gray remaining, difficult to evaluate. She came only to change her eyeglasses.

**So much sufferings, caused by so few caffeine, and so easily cured.**
VI) – All Migraines and Interchangeable signs and symptoms  
(Migraine variants):

Contents:

Introduction - All Migraines, Migraine variants, signs and symptoms.
Table VI-1: 33 Migraines, variants, signs and symptoms felt by the 931 patients.
VI-1- Wide Frontal Migraines.
VI-2 – Migraines that worsened at the morning: wakening and hypnic migraines. Alarm clock headache.
VI-4 – Blepharitis and itching eyes.
VI-5 – Head-top (vertex) and Temporal Migraine.
VI-6 – Ocular Migraines and aches (eyes pain).
VI-7 – Ocular Hyperemia or Episcleritis (Conjunctival injection).
VI-8 – Occipital Migraines.
VI-9 – Photophobia (Light sensitivity).
VI-10- Peri-vascular white sheaths around Optic Nerve’s disk vessels.
Table VI-2: White sheaths around Optic Nerve’s disk vessels with and without Migraines from the 1,270 patients.
VI-11 – Menstrual Rhythmic Variation of Intraocular, Cerebrospinal and Inner Ears’ Fluids Pressures (Premenstrual syndrome) (Menstrual-related migraine) (Catamenial migraine).
VI-12- Inferior Eyelid edema at morning or chronic (eyelid purses).
VI-13 – Nausea and retching, vomit, colic.
VI-14 – Dizziness - vertigo and Migraines.
VI-15 – Recurrent or Chronic cough without any pulmonary lesion.
VI-16 – Recurrent or chronic sneezing.
VI-17- Diffuse Migraines.
VI-18 - Recurrent Obstructive Rhinitis.
Table VI-3: Rhinitis with coryza or Rhinorrhea, and Obstructive Rhinitis or Nasal congestion, related with the incidence of Glaucoma and Optic Nerve’s borders edema.
VI-19 – Visual Darkening, or Transient Blindness, or Amaurosis Fugax, or Retinal Migraine or Transient Hemianopsia:
VI- 20 – Ethmoid, or upper nose, or middle forehead, Migraines.
VI- 21 – Bulbar sub-conjunctival Hemorrhage.
VI- 22 – Ear’s migraines “Otitis”.
VI- 23 – Visual Auras of Migraine (Fortification spectra).
VI- 24 – Somnolence.
VI- 25 – Buzzing.
VI- 26 – Miosis or bilateral pupil shrink (Pupil diameter of 2 mm or less).
VI- 27 - Maxillary aches (pain).
VI- 28 - Eyelid trembling (twitching).
VI- 29 – Hoarseness, Laryngitis and Pharyngitis.
VI- 30 – Blinks excessively.
VI- 31 – Mandible aches (pain). Temporomandibular joint syndrome.
VI- 32 – Bulbar Conjunctival Cystic Edema.
VI- 33 – Transient Reduction of visual acuit.
VI- 34 – Neuralgias, Back pain, Fibromyalgia, Joint pain, and Rheumatic aches (pain).
VI- 35 – Migrainous facies.
VI- 36 - Other Signs and Symptoms.
VI- 37 - Patients without any Migraine, Sign or Symptom.
**Introduction - All Migraines, Migraine variants, signs and symptoms:**

We collected all 931 patients with Migraines, signs and symptoms from all gender and ages, and we found more than 100 different migraines, sicknesses, signs and symptoms felt by our patients with Fluids Hypertension Syndromes, listed above at the Summary. The patients felt them simultaneously or alternatively: they were interchangeable between them. Some of them are denominated as Migraine Variants. Some are cranial autonomic (sympathetic or parasympathetic) signs or symptoms.

We studied and made statistics about the 32 most frequent of these migraines, signs and symptoms. They were (Table VI-1):

<table>
<thead>
<tr>
<th>Migraines and Variants, Signs and Symptoms which we made statistics</th>
<th>Quantity of patients</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1)</strong> Wide Frontal migraines</td>
<td>376</td>
<td>40.4%</td>
</tr>
<tr>
<td><strong>2)</strong> Migraines that Worst at Morning. awakening migraines. Alarm clock headache. Hypnic headache.</td>
<td>295</td>
<td>31.7%</td>
</tr>
<tr>
<td><strong>3)</strong> Rhinitis with coryza (rhinorrhea) and tearfulness (lachrymation)</td>
<td>252</td>
<td>27.1%</td>
</tr>
<tr>
<td><strong>4)</strong> Blepharitis, Itching eyes</td>
<td>238</td>
<td>25.6%</td>
</tr>
<tr>
<td><strong>5)</strong> Temporal and Head-top (vertex) migraines</td>
<td>193</td>
<td>20.1%</td>
</tr>
<tr>
<td><strong>6)</strong> Ocular aches (pain)</td>
<td>187</td>
<td>20.1%</td>
</tr>
<tr>
<td><strong>7)</strong> Ocular Hyperemia (Episcleritis) (Conjunctival injection)</td>
<td>153</td>
<td>16.4%</td>
</tr>
<tr>
<td><strong>8)</strong> Occipital (Neck) Migraines and Stiff Neck</td>
<td>134</td>
<td>14.4%</td>
</tr>
<tr>
<td><strong>9)</strong> Photophobia. Light sensitivity.</td>
<td>124</td>
<td>13.3%</td>
</tr>
<tr>
<td><strong>10)</strong> peri-vascular white sheaths at Optic Nerve’s Disk vessels</td>
<td>108</td>
<td>11.6%</td>
</tr>
<tr>
<td><strong>11)</strong> Menstrual Migraines and Premenstrual Tension</td>
<td>95</td>
<td>10.2%</td>
</tr>
<tr>
<td><strong>12)</strong> Eyelid Edema</td>
<td>85</td>
<td>9.1%</td>
</tr>
<tr>
<td><strong>13)</strong> Nausea and retching, Vomit, Colic</td>
<td>78</td>
<td>8.4%</td>
</tr>
<tr>
<td><strong>14)</strong> Dizziness - Vertigo</td>
<td>65</td>
<td>7%</td>
</tr>
<tr>
<td><strong>15)</strong> Chronic cough without any pulmonary lesion</td>
<td>62</td>
<td>6.6%</td>
</tr>
<tr>
<td><strong>16)</strong> Chronic Sneezing</td>
<td>55</td>
<td>5.9%</td>
</tr>
<tr>
<td><strong>17)</strong> Diffuse Migraine</td>
<td>55</td>
<td>5.9%</td>
</tr>
<tr>
<td><strong>18)</strong> Rhinitis obstructive (Nasal congestion)</td>
<td>44</td>
<td>4.7%</td>
</tr>
<tr>
<td><strong>19)</strong> Visual darkening (Retinal Migraine) (Amaurosis fugax)</td>
<td>39</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>20)</strong> Ethmoid (upper nose) migraines</td>
<td>26</td>
<td>2.8%</td>
</tr>
<tr>
<td><strong>21)</strong> sub-conjunctival bulbar Hemorrhage</td>
<td>13</td>
<td>1.4%</td>
</tr>
</tbody>
</table>
### Table VI-1: Migraines, variants, signs and symptoms felt by the 931 patients.

<table>
<thead>
<tr>
<th>Migraine Variants</th>
<th>Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ear migraines “Otitis”</td>
<td>10</td>
</tr>
<tr>
<td>Visual Aura. Fortification spectra.</td>
<td>10</td>
</tr>
<tr>
<td>Somnolence at visual work</td>
<td>9</td>
</tr>
<tr>
<td>Buzzing, Deafness</td>
<td>8</td>
</tr>
<tr>
<td>Miosis in both eyes</td>
<td>8</td>
</tr>
<tr>
<td>Maxillary aches (pain)</td>
<td>7</td>
</tr>
<tr>
<td>Twitching (trembling) eyelids</td>
<td>6</td>
</tr>
<tr>
<td>Chronic Hoarseness, Pharyngitis</td>
<td>4</td>
</tr>
<tr>
<td>Excessive blinking</td>
<td>4</td>
</tr>
<tr>
<td>Mandible aches (pain)</td>
<td>3</td>
</tr>
<tr>
<td>Conjunctival bulbar cystic edema</td>
<td>3</td>
</tr>
</tbody>
</table>

Total of Migraines and interchangeable signs and symptoms (Migraine variants) felt by these 931 patients = 2,639 patients (283%)

Average Migraines, signs and symptoms per patient = 2.83

We made statistics about each one of these Migraines, here presented:

**VI-1- Wide Frontal Migraines:** These were the most frequent migraines in our patients. Between 931 migraine patients, 376 felt Wide Frontal Migraines.

The **376 patients with wide frontal migraines also presented the following signs and symptoms:**

- 169 patients (44.9%) worsened on awakening;
- 100 patients (26.6%) felt tearfulness and rhinitis;
- 64 women (24.2% out of the 265 women) worsened rhythmically during the menstrual cycle;
- 74 patients (19.7%) had Blepharitis because of rubbing the eyes with their hands;
- 69 patients (18.4%) felt occipital migraines;
- 66 patients (17.6%) felt ocular migraines;
- 56 patients (14.9%) presented photophobia;
- 54 patients (14.4%) felt temporal or at the head-top (vertex) Migraines.
- 41 patients (10.9%) presented eye redness (eye erythema);
- 37 patients (9.8%) presented eyelid edemas;
- 37 patients (9.8%) suffered from nausea and retching or vomits;
- 30 patients (8%) presented Chronic cough without any pulmonary lesion;
- 28 patients (7.4%) presented dizziness - vertigo;
- 19 patients (5.1%) presented chronic sneezing;
- 18 patients (4.8%) presented transient visual darkening;
- 16 patients (4.3%) presented obstructive rhinitis;

And other lesser frequent signs and symptoms.

**- 27 years of wide frontal migraines caused by caffeine, excessive water and beer:** We had a 52-year-old housewife, two children, 1.64 meters (5 feet and 5 inches) tall, 77 kilograms (170 pounds) of...
weight. She was a typical Brazilian: around 33% Indian, 33% white from Spanish and Portuguese, 33% Black. This was the first ophthalmological examination in her life. She was complaining about daily wide frontal migraines since she was 25 year-old. She suffered also with diabetes, peptic ulcer, and her left eye was itching, tearful and swollen daily for the last year. She was a daily drinker of coffee 200 milliliters (7 fluid ounces), caffeinated soft drinks 600 milliliters (20 fluid ounces), water 5,500 milliliters (one and a half gallon), and some beer; and sometimes wine at weekends. She was using her husband’s old eyeglasses for near vision.

At her exam, we found “all normal” with her eyes. Deep and physiologic anterior chambers, no eyeglasses needs for distance. Her intraocular pressures were 16 and 18 mmHg right and left eyes, which are reasonable. Her Optic Nerve’s disks show cups of 0.2/2/0/0 and 0.4/3/2/0 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which are physiologic, except the visibility of the pores, but this does not configure any sickness. We only prescribed her to stop all caffeine, wine, beer, and to reduce the water drinks to the thirst needs.

After one month, she came for another exam, cured from all those 27 years of aches, for the first time and without any medicament. She was most happy because she had lost 2 kilograms of weight, caused by two liters of water eliminated, mainly at her belly, and now she can use her old clothes again.

The 376 patients with wide frontal migraines had the Etiologies:
- 205 patients (54.5%) drank too much water, with an average of 3.3 liters daily;
- 204 patients (54.3%) drank Caffeine, as coffee, mate, tea or soft drinks, daily.
- 132 patients (35.1%) drank coffee, mate or tea;
- 126 patients (33.5%) drank caffeinated soft drinks;
(Note: Between those 132 patients that drank coffee, and those 126 that drank soft drinks, many were the same. So, the total of patients that drank both was only 204, and not 258.)
- 96 patients (25.5%) presented intraocular pressure of 17 mmHg or more; out of these 96,
- 28 patients (7.4%) presented intraocular pressure of 22 mmHg or more;
- 86 patients (22.9%) drank beer;
- 63 patients (16.8%) presented shallow anterior chamber in their eyes;
- 43 patients (11.4%) took medicaments that raise the fluids pressures;
- 25 patients (6.6%) drank wine;
- 25 patients (6.6%) used TV or computer excessively;
- 23 patients (6.1%) presented visceral disturbances.

In these 376 patients with Wide Frontal Migraines, we found the following during the examination:
- 175 patients (46.5%) presented minimal Optic Nerve's borders edema, and
- 90 patients (23.9%) presented evident Optic Nerve's borders edema.
- From those above patients with Optic Nerve's borders edema, 41 patients presented also peri-vascular white sheaths around the Optic Nerve disk's vessels.
- 42 patients (11.2%) were suspects of glaucoma;
- 26 patients (6.9%) presented incipient glaucoma;
- 13 patients (3.5%) presented advanced glaucoma.
- In only 35 patients (9.3%) we did not find any of the above disturbances.

We conclude that wide frontal migraines are associated with multiple other signs and symptoms; their main etiologies are the excessive daily consumption of water, caffeine, beer, wine and medicaments; they presented Optic Nerves’ signs of Ocular and Cerebrospinal Fluids Hypertension Syndromes, and they are important symptoms to Glaucoma.
Cerebrospinal Fluid Hypertension Syndrome, guaraná, contraceptives and Angioneurotic Edema: We had a white 24-year-old lawyer, no child, 1.54 meters (5 feet and 6 inches) tall, 48 kilograms (105 pounds) of weight, with a history of Angioneurotic Edema 4 years before, caused by allergy to medicaments. She is little myopic, with -0.75 and -1.00 dioptries on her right and left eyes. She used contraceptives hormones and guaraná 600 milliliters (20 fluid ounces) each day. She was complaining of daily wide frontal migraines at evenings and at awakenings, worsening before the menses. She also presented dizziness, chronic rhinitis, and itching on her eyes. On the examination, we confirmed the same eyeglasses. Her intraocular pressures were 14 and 14 mmHg in both eyes (physiologic) and her anterior chambers were deep (physiologic). Her Optic Nerve’s disks show 0/0/0.5 and 0.4/1/0.5 right and left eyes (Optic Nerve’s cups diameter/ cup deepness/ lamina cribosa's pores visibility/ borders edema), which characterizes the Cerebrospinal Fluid Hypertension Syndrome, and explains all of her symptoms.

Stopping the guaraná, after one month she lost the body swelling and became lighter 2 Kilograms (4.4 pounds) of water, but still presented many headaches. At the following month, stopping the contraceptive hormones her headaches and dizziness vanished. Now she is beginning new and weaker hormones.

We remained with one doubt: The Angioneurotic Edema that she suffered years ago was stimulated by caffeine and the Cerebrospinal Fluid Hypertension Syndrome, and only triggered by the medicaments?

VI-2 – Migraines that worsened at the morning: wakening and hypnic migraines. Alarm clock headache.

The moment a person wakens usually presents the higher intraocular pressure of the day. The Fluids Hypertension Syndromes, its Migraines and other signs and symptoms felt upon awakening are consequent to this rise of intraocular, Cerebrospinal or inner ears fluids’ pressures when the patient sleeps. This sleeping fluid pressures rises are partly physiologic as one of the circadian rhythms (biological clock), and partly caused by other etiologies and pathophysiologies.

Wakening migraines which happen at 6 AM, or at 3 AM, both are similar migraines.

“The intraocular pressure at 6 hours at morning, with the patient lying down was bigger than the intraocular pressure average from the daily tensional curve and the small curve.”(Translated from Portuguese). (Rodrigues L D and others.)

“Awakening headaches or headaches awakening them from sleep were reported by 71% of patients, from 1283 migraineurs with a mean age of 37.4 years.” (Kelman L and Rains JC).

When the patient presents wakening migraines, after few hours physiologically his intraocular pressures lower below 17 mmHg. The Cerebrospinal and the inner ears’ Perilymph and Endolymph fluids probably also lower their pressures, probably not at the same time, and the Migraine vanish.

The migraines, signs and symptoms that most worsened on awakening were:

- 7 patients (77.8%) out of 9 patients with excessive somnolence;
- 87 patients (64.9%) out of 134 with occipital migraines;
- 53 women (55.8%) out of 95 women with menstrual migraines;
- 90 patients (48.1%) out of 187 with ocular migraines;
- 21 patients (47.7%) out of 44 with obstructive rhinitis;
- 37 patients (47.4%) out of 78 patients suffering from nausea and retching or vomits;
- 25 patients (45.5%) out of 55 suffering from sneezing;
- 169 patients (44.9%) out of 376 with wide frontal migraines;
- 3 patients (42.9%) out of 7 with maxillary migraines;
- 36 patients (42.4%) out of 85 with eyelid edemas;
- 81 patients (42%) out of 193 with temporal migraines;
- 4 patients (40%) out of 10 with otitis migraines;
- 3 patients (37.5%) out of 8 patients with buzzing;
- 23 patients (37.1%) out of 62 coughing patients;
- 24 patients (36.9%) out of 65 with dizziness - vertigo;
- 9 patients (34.6%) out of 26 with ethizziness (upper nose) migraines;
- 42 patients (33.9%) out of 124 patients with photophobia;
- 1 patient (33.3%) out of 3 with mandible migraines;
- 78 patients (31%) out of 252 rhinitis with coryza;
- 16 patients (29.1%) out of 55 with diffuse migraines;
- 68 patients (28.6%) out of 238 with blepharitis;
- 40 patients (26.1%) out of 153 patients with eye redness (eye erythema);
- 1 patient (25%) out of 4 patients with hoarseness;
- 3 patients (23.1%) out of 13 patients with bulbar sub-conjunctival hemorrhage;
- 2 patients (20%) out of 10 patients with twitching (trembling) eyelids;
- 2 patients (20%) out of 10 patients with visual aura;
- 4 patients (10.3%) out of 39 with Amaurosis Fugax (retinal migraine).

From our 931 patients with Migraines, we had 295 patients (31.7%) who wake daily with them (Table VI-1).

In these 295 patients with awakening Migraines, during examination we found the following:
- 139 patients (47.1% out of 295) presented minimal Optic Nerve’s disks edema;
- 85 patients (28.8% out of 295) presented intraocular pressure of 17 mmHg or higher. Out of these 85 patients,
  - 21 patients (7.1% out of 295 or 24.7% out of 85) presented intraocular pressure of 22 mmHg or higher;
  - 76 patients (25.8% out of 295) presented evident (0.5 dioptre) Optic Nerve’s disk edema;
  - 30 patients (10.2% out of 295) were suspects of Glaucoma;
  - 21 patients (7.1%) presented incipient Glaucoma;
  - 14 patients (4.7%) presented advanced glaucoma;
Only 28 patients (9.8%) did not present any of the above Ocular disturbances.

The 295 patients with awakening Migraines had the Etiologies isolated or associated:
- 176 patients (59.7%) drank caffeine, as coffee, mate, tea, or soft drinks daily.
- 174 patients (59%) with excessive liquid drinks;
- 114 patients (38.6%) with coffee, mate or tea drinks;
- 104 patients (35.3%) with caffeinated soft drinks;
- 76 patients (25.8%) with beer drinks;
- 61 patients (20.7%) presented shallow eyes anterior chamber;
- 40 patients (13.6%) with medicaments that raise the fluid pressures;
- 20 patients (6.8%) with wine drinks.

We conclude that all the three Fluids Hypertension Syndromes, the Ocular, the Cerebrospinal and the Inner Ears worsened on awakening in average 31% of patients.

We conclude that some patients presented only one Fluid Hypertension Syndrome, but most patients presented two or all the three syndromes mixed up.
Wakening Migraines, fibromyalgia and many sicknesses caused by caffeine: We had a 52-year-old housewife, 1.67 meters (5 feet and 6 inches) tall, 72 Kilograms (158 pounds) of weight, 3 children, Brazilian white with one Black ancestor. She suffered the last 40 years with Migraines at awakening, sometimes at her right and sometimes at her head’s left side. She suffered also with obstructive rhinitis, chronic dry cough and insomnias. From the last five years she suffered also with Fibromyalgia, with aches spread at her joints. She used to drink coffee 200 milliliter (7 fluid ounces), mint tea and caffeinated soft drinks daily. To medicate her headaches she used caffeinated analgesics. To medicate her insomnia she used two psychotropics. At her ophthalmological exam, we found the need to change eyeglasses, and intraocular pressures of 20 and 20 mmHg, which is moderately high. Her eye’s anterior chambers were shallow. The Optic Nerve’s disks presented cups of 0.4/2/0.25 and 0.5/3/1/0.5 (cup’s diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which means small damage from little intraocular pressure rise associated with little Cerebrospinal fluid pressure rise. We prescribed her new eyeglasses and to stop all caffeine and teas.

After one month, she came to verify her new eyeglasses that she did not use until now. She told us that she suffered one week with the absence of caffeine, but after that, she is now 3 weeks free from all her Migraines and the other signs and symptoms, for the first time in 40 years. Even the insomnia became better. She refers that only remained little aches at her elbows. Her intraocular pressures show 18 and 18 mmHg in both eyes, which means that she will need to examine them each 6 months.


The Fluids Hypertension Syndromes cause two distinct recurrent rhinitis, both usually denominated as “allergic rhinitis”:

A - The Tearfulness and recurrent rhinitis with coryza, known as Rhinorrhea with lachrymation, is a consequence of a rise of the intraocular or the cerebrospinal fluid pressures, causing recurrent tearfulness, which draining to the nose by the lachrymo-nasal duct results in chronic obstruction with coryza.

B - The Chronic Obstructive Rhinitis, know as Nasal congestion or Nasal stuffiness, is dry, with no coryza or tearfulness; it is related with the rise of the Cerebrospinal fluid pressure, and we analyzed it at another point below.

Between 931 patients with some kind of Migraine, we had 252 patients with the coryza (rhinorrhea) recurrent rhinitis linked with tearfulness.

The 252 patients with Rhinitis with coryza (rhinorrhea) presented:
- 100 patients (39.7%) presented migraines at the wide frontal area;
- 85 patients (33.7%) presented Blepharitis or itching eyes;
- 78 patients (31%) worsened at morning;
- 46 patients (18.3%) with temporal or head-top (vertex) migraines;
- 44 patients (17.5%) with photophobia;
- 42 patients (16.7%) with ocular migraines;
- 41 patients (16.3%) with ocular hyperemia;
- 26 women (15.9% out of 164 women) with menstrual migraines;
- 37 patients (14.7%) with occipital migraines;
- 29 patients (11.5%) with eyelids edemas;
- 22 patients (8.7%) with chronic sneezing;
- 22 patients (8.7%) with nausea and retching, vomiting or colic;
- 21 patients (8.3%) with Chronic cough without any pulmonary lesion;
- And they presented many other signs and symptoms with lesser frequencies.
- Only 10 patients (4%) ache at the ethmoid area.

In these 252 patients with recurrent rhinitis with coryza (rhinorrhea), during examination we found the following:
- 76 patients (30.2%) presented intraocular pressure of 17 mmHg or more in at least one eye.
- 26 patients (10.3%) suspects of Glaucoma;
- 19 patients (7.5%) with incipient Glaucoma;
- 17 patients (6.7%) with advanced Glaucoma;
- 114 patients (45.2%) with minimal Optic Nerve's border edema;
- 51 patients (20.2%) with evident (0.5 dioptre) Optic Nerve's borders edema; at these Optic Nerve edemas patients:
- 23 patients (9.1%) with white sheaths around the Optic Nerve disk vessels.
- Only 19 patients (7.5%) were without any detectable Ocular pathology.

The main etiologies of the 252 patients with Rhinitis with coryza (rhinorrhea) were:
- 146 patients (57.9%) drank excessive water or other liquids, with an average of 3.5 liters every day.
- 138 patients (54.8%) drank caffeine, as coffee, mate, tea, or soft drinks daily.
- 97 patients (38.5%) with caffeinated soft drinks;
- 74 patients (29.4%) with coffee drinks;
- 52 patients (20.2%) with shallows eye's anterior chamber;
- 49 patients (19.4%) with beer drinks;
- 31 patients (12.3%) with medicaments that raise the intraocular pressure;
- 24 patients (9.5%) with wine drinks.
In addition, they had other smaller etiologies.

We conclude that recurrent rhinitis with coryza (rhinorrhea) in 92.5% of patients is a symptom of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

- Infantile Glaucoma and Rhinitis with coryza. We had a 9-year-old strong boy, with great grandfathers Indian, Black and White, with 1.41 meters (4 feet and 7 inches) tall, 41 kilograms (91 pounds) of weight. He was complaining since more than a year, from right temporal migraines, rhinitis with coryza, sneezing, itching at both eyes, and atopic itching over all his body. Since very young, he was a drinker of caffeinated “cola” soft drinks, of around 600 milliliters (20 fluid ounces) daily. At the first ophthalmological exam, we found the needs of hyperopia eyeglasses, of +1.00 dioptre at each eye. His Optic Nerve’s disk cups On direct ophthalmoscopy show 0.7/4/3/0 in both eyes (cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which is incipient Glaucoma. His intraocular pressures at Goldmann applanation tonometry presented 20 and 16 mmHg right and left eyes, which is moderately high. His anterior chambers were deep, physiologic. We prescribed him to stop all soft drinks with caffeine, and Timolol Maleate eye drops twice a day, to lower his intraocular pressures.

After one month, he came to another exam, better from all those signs and symptoms. There were no more headaches, coryza, rhinitis or dermatitis. He had not suffered any headaches from the caffeine withdrawal. We found his Optic Nerves' cups with 0.7/3/3/0 and 0.7/4/2/0 right and left eyes, which is a little better than before. His intraocular pressures show 18 and 16 mmHg right and left eyes. We concluded that although the absence of signs and symptoms, in order to stop the glaucomatous evolution, his intraocular pressures need to stay lower, so we prescribed to change his eye drops at night to a stronger one, the Latanoprost.

We do not know whether the infantile Glaucoma he suffer and shall endure for his life is only a coincidence, or was consequent to the caffeine that also causes to him the Fluids Hypertension Syndromes. Maybe the caffeine he drank since very young age, and probably since he was a fetus, because his mother also drank caffeine, caused his infantile Glaucoma.

Are the mothers drinking caffeine causing Glaucoma in their babies?

VI-4 – Blepharitis and itching eyes:
Most patients with Blepharitis are consequent of rubbing their eyelids with their own fingers consequent to Itching eyes, so we studied them together. We had 238 patients with these pathologies.

Out of these 238 patients with Blepharitis and Itching eyes, we had:
- 85 patients (35.7%) with tearful or rhinitis;
- 74 patients (31.1%) with frontal migraines;
- 68 patients (28.6%) worsened at morning;
- 57 patients (23.9%) with eye redness (eye erythema);
- 34 patients (14.3%) with eyelid edemas;
- 33 patients (13.9%) with occipital migraines;
- 32 patients (13.4%) with photophobia;
- 31 patients (13%) with temporal migraines or at the head-top (vertex);
- 29 patients (12.2%) with ocular migraines;
- 26 patients (10.9%) with Chronic cough without any pulmonary lesion;
- 21 patients (8.8%) suffering from nausea and retching or vomits;
and many other less frequent signs and symptoms.

Some of these patients with itching eyes present conjunctivitis, as acute as recurrent or chronic ones. These conjunctivitis can be:
- Infectious, caused by scratching the eyes with the fingers contaminated;
- Papillary, similar to allergic;
- Parasitic, etc.

The eyelids become floppy and swollen. The entirety of floppy, rubbery upper eyelids that easily everts, associated with chronic papillary conjunctivitis, was denominated as **Floppy Eyelid Syndrome**.
(Culbertson WW and Ostler HB).
The blepharitis causes the eyelash ptosis, and both are caused by the fingers rubbing the eyelids.

**These 238 patients with Blepharitis and Itching eyes presented On their exam:**
- 110 patients (46.2%) with minimal Optic Nerve’s borders edema;
- 51 patients (21.4%) with evident Optic Nerve’s borders edema;
- 84 patients (35.3%) presented intraocular pressure of 17 mmHg or more; out of these 84:
  - 27 patients (11.3% out of 239 or 32.1% out of 84) presented intraocular pressure of 21 mmHg or more;
  - 43 patients (18.1%) with shallow eye’s anterior chamber;
  - 22 patients (9.2%) suspects of glaucoma;
  - 23 patients (9.7%) with incipient glaucoma;
  - 15 patients (6.3%) with advanced glaucoma.
- Only in 22 patients, (9.2%) we could not find any pathology.

**These 238 patients with Blepharitis and Itching eyes had the Etiologies:**
- 136 patients (57.1%) drank too much water, with an average of 3.4 liters each day;
- 122 patients (51.3%) drank caffeine, as coffee, mate, tea, or soft drinks daily.
- 80 patients (33.6%) drank caffeinated soft drinks;
- 63 patients (23.5%) drank coffee, mate or tea;
- 47 patients (19.7%) drank beer;
- 12 patients (5%) drank wine;
- 29 patients (12.2%) took medicaments that raise the fluids pressures;
- 11 patients (4.6%) presented visceral sicknesses;
- And other patients with lesser frequent etiologies.
Blepharitis, Keratoconjunctivitis sicca, Terrien Marginal degeneration, and Rosacea: We had a 52 year-old very white lady painter, 1.57 meter tall (5 feet and 2 inches), weighing 64 kilograms (141 pounds), one child. She referred that her father was too much white with blue eyes from French-Swiss origin, and her mother was also very white from Italian and Spanish origin. She uses since childhood big eye glasses for hyperopia and presbiopia, now with +6.25 spherical dioptre on both eyes for distance vision, and +9.00 dioptre for near vision. Since her 30-year-old, she is suffering on both eyes with intense Blepharitis, all eyelids with chronic edemas, eyelids retraction, and sometimes turning the eyelid in the eyes (entropion), chronic conjunctival secretion, keratoconjunctivitis sicca, Pterygium, and Rosacea at her face. During all those years she had been examined and medicated by more than 15 other ophthalmological medical doctors, and came with a shopping-bag containing many prescriptions, medical exams reports, photographs, ophthalmologic and homeopathic medicaments. An Italian physician diagnosed her with corneal “Terrien marginal degeneration” on the year 1998. It was very difficult to examine her, because she did not open her eyes, suffering with intense photophobia. On ophthalmological examination we found the same eyeglasses. The direct ophthalmoscopy shows both Optic Nerves’ disks with 0/0/0/0, or say without any cup or border edema. All her eyelashes were incrusted with many dried secretions. There were a high and red Pterygium in her right eye. Her face was red with rosacea. Her intraocular pressures were 16 mmHg (physiologic) in both eyes. Her anterior chambers were extremely shallow, which is prone to suffer peaks of high intraocular pressure. She used to drink 50 to 100 milliliters (2 to 4 fluid ounces) of coffee and 4,000 milliliters (more than 1 gallon) of water daily, without any special motive. She said: “Water is good to health, isn’t it?”

We prescribed her to stop all medicaments and caffeine, to shorten the water to the thirst needs, Timolol Maleate 0.5% eye drops twice a day to lower her intraocular pressures, another eye drops with antibiotics to cure the eyelids infection, vitamin “A” tablets 50,000 units a day; to avoid rubbing her eyes, and to wash her eyelashes 2 times a day with any regular soap. She improved slowly. After 1 month she was very better, but still was rubbing her eyes. After 2 months she stopped the eye drops. After 5 months she was all better and stopped the vitamin “A”. Her intraocular pressures were 14 and 16 mmHg, normal. There were no more anyone of those old disturbs. Even the facial rosacea disappeared. The Pterygium was white, atrophied. The patient disappeared for some years.

She came again on the year 2008, entirely cured, to change her eyeglasses. Now she only drinks the water to the thirst needs, and washes her face with soap twice daily. She has no more sufferings or medicaments. She brought with her, a friend to be examined by us and medicated. Thanks!

We suppose that in this patient, the pathophysiologic chain of events was:
1st. Event: An inherited very shallow anterior chamber, which worsens with aging, causing a drainage insufficiency of the Aqueous Humor from the eyes.
2nd. Event: Drinking excessive water in addition to some caffeine, increasing the Aqueous Humor secretion, causing peaks of rose intraocular pressure (Ocular hypertension). It is not a glaucoma yet.
3rd. Event: The peaks of intraocular pressure causes ocular aches and strong desire of rubbing the eyes with her hands (a migraine variant).
4th. Event: The chronic eyes rubbing daily infected the eyelashes, the eyelids glands and the conjunctivias, and kept them infected chronically, which never cure only with ophthalmic medicament.
5th. Event: The poisons of the microorganisms as the Staphylococcus, Streptococcus and others, intoxicating the eye day after day years along, caused all this patient’s sufferings for so many years.

Chronic blepharitis, Migraines, many symptoms and Normal Tension Glaucoma caused by caffeine and excessive water:
We had a 58 years-old white woman, 1.57 meters (5 feet and 2 inches) tall, 56 Kilograms (123 pounds), two daughters, schoolteacher, who since her youth daily drank coffee 100 millilitre, guaraná 300 millilitre and water 3,000 millilitre. Since then she had at both eyes chronic blepharitis, eyes itching, tearfulness, and one day began to have upper eyelids edema and ptosis. A medical doctor submitted her to two plastic surgeries that cured her eyelids ptosis. From the last 10 years until now, she presents left temporal migraines at morning, strong joints aches at her arms and legs, chronic legs edemas, nervousness that made her medicate continuously with daily psychotropic, and corticosteroid
ointment at her blepharitis. At her examination we found intraocular pressures 16 and 16 mmHg in both eyes, Optic Nerves' disks with 0.7/3/1/0 and 0.7/3/0 (cup diameter/ cup depth/ lamina cribosa pores visibility/ borders edema), which characterizes incipient Normal Pressure Glaucoma. This is a typical evolution of the Ocular Hypertension Syndrome: it begins with headaches and other signs and symptoms caused by caffeine and excessive water, and many years later it completes with Glaucoma. We prescribed her to stop all caffeine and to shorten the excessive water drank; to the Normal Tension Glaucoma, we prescribed Timolol Maleate eye drops twice a day.

She came again after one month, explaining that she presented two crises with strong aches at the first week without caffeine, lost some weight and all edemas, and now she is happy without any signs or symptoms. She is cured at last.

We conclude that Blepharitis and Itching eyes, in 90.8% of patients are symptoms of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

Most Chalazion are also consequent to itching eyes, which cause parasitic infestation of the eyelids’ Meibomian glands, with their consequent inflammation and obstruction. We did not include them in this statistics.

- **Curing Chalazion and Migraines caused by excessive water and few caffeine:** We had a 16-year-old and slim white mulatta, 1.68-meter (5 feet and 6 inches) tall, 50 Kilograms (110 pounds) of weight, no child, complaining of one Chalazion at her left upper eyelid. She also complained of small bi-temporal headaches, colic at menses and few eyes itching. At both her Optic Nerves we found 0/0/0/0.5 (cup-disk diameter/ cup depth/ Lamina Cribosa’s pores visibility/ borders edema), which characterizes the Cerebrospinal Fluid Hypertension Syndrome. Asking about her drinks, we discovered that she drank daily coffee 100 milliliter (three fluids ounces), and oriented by her medical doctor, she drank water 3,000 milliliter (three quarters of a gallon), in order to prevent “epidermic cellulite”, which she presented none because she is slim and young. Her intraocular pressures were 22 and 21 mmHg, which is high for her age and her physiologic deep anterior chambers. These high intraocular pressures were supposed to cause some increased Optic Nerve’s cups, which she presented none: she presented only borders edemas. This borders edemas, despite those high intraocular pressures, show that the Cerebrospinal Fluid pressure was chronically higher than these intraocular pressures. How much was that Cerebrospinal fluid pressure, caused by the excessive water and caffeine daily? Luckily for her, she came here in time, and with the reduction of her daily drinks of water and coffee from now and on, she will no more present migraines and other sicknesses from the Cerebrospinal Fluid Hypertension Syndrome.

**VI-5 – Head-top (vertex) and Temporal Migraine** at one or both head’s sides. We collected 193 patients with Temporal Migraines or at the head-top (vertex).

These 193 patients with Temporal or Head-top (vertex) migraines also presented the following signs and symptoms:
- 81 patients (42%) worsened at morning;
- 55 patients (28.5%) with wide frontal migraines;
- 37 women (25.9% out of 143 women) with menstrual migraines;
- 48 patients (24.9%) with ocular migraines;
- 46 patients (23.8%) with tearfulness of Rhinitis with coryza (rhinorrhea);
- 44 patients (22.8%) with occipital migraines;
- 34 patients (17.6%) with nausea and retching, vomiting or colic;
- 31 patients (16.1%) with itching eyes or blepharitis;
And other lesser frequent signs and symptoms.

These 193 patients with Temporal or head-top (vertex) Migraines had the Etiologies:
- 125 patients (64.8%) drank caffeine, as coffee, mate, tea, or soft drinks daily.
- 123 patients (63%) drank too much water, with an average of 3.4 liters daily;
- 89 patients (46%) drank caffeinated soft drinks,
- 72 patients (37%) drank coffee, mate or tea.
- 37 patients (19.2%) drank beer,
- 21 patients (10.9%) drank some medicament that raises the fluids pressures.
- 12 patients (6.2%) drank wine,

In these 193 patients with temporal or head-top (vertex) migraines, we found at exam, in at least one eye:
- 152 patients (78.8%) presented some Optic nerve’s borders edema, so distributed:
  - 94 patients (48.7%) with mild edema, and
  - 58 patients (30.1%) with evident edema;
- 20 patients (13.2% out of these 152), presented visible peri-vascular white sheaths around the Optic Nerves’ disk vessels.
- 34 patients (17.6%) presented Glaucoma, including seven simultaneously with mild Optic Nerve’s borders edema. These 34 patients were so distributed:
  - 14 patients (7.3% out of the 193) suspects of glaucoma;
  - 13 patients (6.7%) with incipient glaucoma;
  - 7 patients (3.6%) with advanced glaucoma.
- Only 22 patients (11.4% out of the 193) did not present Optic Nerve’s borders edema or Glaucoma, suspect of having pure forms of Inner Ear’s Fluids Hypertension Syndrome.

We conclude that Temporal Migraine in 88.6% of patients are symptoms both from Ocular or Cerebrospinal Fluids Hypertension Syndromes, and in 11.4% of patients can be symptom of Inner Ear’s Fluid Hypertension Syndrome.

- **Strong Temporal Headaches, eyelids trembling and caffeine:** On the year 1994, we had a 14-year-old strong black patient, complaining of tearful eyes, suspicious of glaucoma two years before, and unbearable eyeglasses that he stopped its use. His grandfathers were 3 Black and one Mulatto. At that time his ophthalmological examination was entirely physiologic, the intraocular pressures were 18 and 18 mmHg in both eyes. He needed no eyeglasses, and we recommended him to stop the beer drinks. He came again with bi-temporal and occipital headaches, and with eyelids trembling, on the years 2000, 2001 and 2003. At that time, we did not know how to diagnose and medicate him.

  On the year 2007, with 27-year-old, he came with the same headaches and photophobia. He is strong, has 1.92 meters (6 feet and 4 inches) tall, weight 106 Kilograms (233 pounds) and works as policeman. He now does not drink beer, but he daily drinks coffee 500 milliliter (one pint), caffeinated soft drink 1,000 milliliter (two pints) and caffeinated over-the-counter analgesics for headache. His ophthalmological examination is entirely physiologic. His eyes show intraocular pressures of 16 and 16 mmHg. His direct ophthalmoscopy show 0.2/1/0/0.75 in both eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the Cerebrospinal Fluid Hypertension Syndrome, which explains his symptoms for all these years. We prescribed him the best therapy: stopping all the caffeine.

  After two months, he came again without any aches. His Optic Nerves’ disks show the same aspect than before, with little reduction, which is difficult to differentiate with the direct ophthalmoscope.

**VI-6 – Ocular Migraines and aches (eyes pain):** We collected 187 patients with ocular migraines or aches.

These 187 patients with ocular migraines also presented the following signs and symptoms:
- 90 patients (48.1%) worsened on awakening;
- 66 patients (35.3%) felt frontal migraines,
- 48 patients (25.7%) felt temporal or head-top (vertex) Migraines.
- 42 patients (22.5%) felt occipital migraines;
- 42 patients (22.5%) felt tearfulness and rhinitis;
- 23 women (17% out of the 135 women) worsened rhythmically during the menstrual cycle;
- 31 patients (16.6%) presented photophobia;
- 29 patients (15.5%) had blepharitis because of rubbing the eyes with their hands;
- 24 patients (12.8%) presented eye redness (eye erythema);
- 24 patients (12.8%) presented eyelid edemas;
- 18 patients (9.6%) suffered from nausea and retching or vomits;
Other patients presented signs and symptoms with lesser frequencies.

Some patients with the above signs and symptoms were denominated as “SUNCT Syndrome: A primary headache disorder that is characterized by frequent short-lasting, unilateral, neuralgiform pain attacks in the ocular area, with conjunctiva fluid-filling and tearing. SUNCT syndrome is usually resistant to treatment. DO50798.” (Health Sciences Descriptors).

As there are so much signs and symptoms from the Fluids Hypertension Syndromes, whether a medical doctor choose any three of them to denominate as a new syndrome, there are hundreds of possibilities to be differently denominated as new “syndromes”.

The International Classification of Headache Disorders mix together many signs, symptoms, and timing of their occurrences.

“Cluster Headache is a primary headache disorder that is characterized by severe, strictly unilateral pain which is orbital, supraorbital, temporal or in any combination of these sites, lasting 15-180 minutes, occurring 1 to 8 times a day. The attacks are associated with one or more of the following, all of which are ipsilateral: conjunctival injection, lachrymation, nasal congestion, rhinorrhea, facial sweating, eyelid edema, and miosis.” (Health Sciences Descriptors).

These above definitions use only the symptoms, but nothing from the etiologies or pathophysiology of the migraines.

- SUNCT Syndrome and legs cramps caused by excessive water and caffeine: We had a 61-year-old housewife, no child, 1.49 meters (4 feet and 11 inches) tall, 44 Kilograms (97 pounds) of weight, whose grandparents were 2 European, 1 Indian and 1 Black. On the last 40 years until now, she smoked 40 cigarettes and drank more than 1,000 milliliter (33 fluid ounces) of strong coffee daily. She also felt the necessity to drink 20 cups of 300 milliliter (10 fluid ounces each cup) of tap water, which adds up to 6,000 milliliter (one and half gallon) of water daily. During all these years, she felt diffuse light headaches and strong awakening legs cramps, which sometimes makes impossible her to stand up. Otherwise, she has been a healthy woman, without any medicament.

Suddenly, 15 days ago she woke with strong aches at her right eye, profuse tears, hyperemia and photophobia. On the examination, we found the right eye with miosis, hyperemia around the Limbus Corneae, normal visual acuity, physiologic intraocular pressures of 12 and 16 mmHg, shallow anterior chambers, no secretion or damage at her corneas or at other ocular place. At her both Optic Nerves, she presented with 0/0/0/0.75 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), with retinal venous engorgement, which characterizes the Cerebrospinal Fluid Hypertension Syndrome, caused by all these coffee and water drank daily.

Her cure was easy: stopping all the coffee and reducing the excessive water drank daily, she suffered a week of headaches, and after this, she became better. After one month, she returned without any legs cramps, but still feeling small eye aches. We found Optic Nerve’s disks of 0/0/0/0.25, and intraocular pressures of 19 and 19 mmHg. Her pupils were both physiologic, and her eyes did not present any hyperemia.

After more 6 months, she came entirely cured from all those sufferings. The motive was not for her exam: she was bringing a housewife friend of her for exam, 59-year-old, with two years of relapsing right hemorrhagic red eye, already examined by many physicians but without cure, caused by 300 milliliters (10 fluid ounces) of daily coffee drinks, during the last 40 years. Guess how I cured her?

These 187 patients with ocular migraines had the Etiologies:
- 113 patients (60.4%) drank too much water, with an average of 3.3 liters daily;
- 93 patients (49.7%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 57 patients (30.5%) drank caffeinated soft drinks;
- 54 patients (28.9%) drank coffee, mate or tea;
- 49 patients (26.2%) drank beer;
- 21 patients (11.2%) took medicaments that raise the fluids pressures;
- 19 patients (10.2%) drank wine;

In these 187 patients with ocular migraines, we found the following during the examination:
- 89 patients (47.6%) presented minimal Optic Nerve's borders edema, and
- 39 patients (20.9%) presented evident Optic Nerve's borders edema.
- From those 128 patients with Optic Nerve's borders edema, 16 patients (12.5% out of 128) presented also peri-vascular white sheaths around the Optic Nerve disk vessels.
- 14 patients (7.5%) suspects of glaucoma; some of these suspects of Glaucoma also were included with the minimal Optic Nerve’s borders edema.
- 19 patients (10.2%) presented incipient glaucoma;
- 13 patients (7%) presented advanced glaucoma.
- In only 15 patients (8%), we did not find any etiology to their Ocular migraines.

**When the eyes cluster migraines forewarn the Glaucoma:** We had a patient very strong white 27-year-old man. His grandfathers and grandmothers were from Portugal and Italy, and supposed one great-grandmother was black. He had 1.68 meters (5 feet and 6 inches) tall, 75 Kilograms (165 pounds) of health. He works on industrial security, as a police officer. For many years, he used to drink tea 300 milliliter (10 fluid ounces) each day. As he suffered with renal stones two years ago, probably caused by the caffeine from the tea, he added drinking more than 2,200 milliliter (more than half gallon) of water daily. One week ago, his right eye began to ache until now. On his ophthalmological exam, we found no need of glasses. His intraocular pressures were 22 and 20 mmHg right and left eyes, which are moderately high. His anterior chambers were deep, physiologic. His Optic Nerves’ cups show 0.6/4/2/0.25 and 0.7/4/3/0.5 right and left eyes (Optic Nerve’s cup diameter/ cup’s depth/ lamina Cribosa’s pores visibility/ borders edema), which is the beginning of the glaucoma in addition to the Cerebrospinal Fluid Hypertension.

It is very common with the migraines: both eyes are damaged, one eye is worst, but it is the other eye that is aching. When the patient is forewarned from anyone of the many signs and symptoms of the Fluids Hypertension Syndromes, it is an excellent occasion to medicate him in time and to stop the glaucomatous evolution.

We conclude that Ocular Migraines and aches (pain) are symptoms associated with multiple other signs and symptoms, have multiple etiologies similar to the other migraines, are frequent in the Ocular and the Cerebrospinal Fluids Hypertension Syndromes, and can be important symptoms to Glaucoma.

VI-7 – Ocular Hyperemia or Episcleritis (Conjunctival injection): We had 153 patients with recurrent ocular hyperemia without infection or conjunctival secretion, which remains for weeks, months or years. At the beginning the hyperemia took only a small radial sector, as nasal, temporal or at the inferior half of the visible ocular episclera and bulbar conjunctiva, with intraocular pressure lesser than 16 mmHg. In the few patients that sustained excessive drinks, the hyperemia sectors multiplied and enlarged, reaching all the inferior episclera and bulbar conjunctiva. At those exceptionally rare patients that did not stop the drinks, the hyperemia took all the visible episclera during years along.

- **Eyes Hyperemia and Pterygium aggressiveness without Marijuana:** We had a 21-year-old, strong Mulatto, with Indian, Black and White ancestors, 1.64 meters tall (5 feet and 5 inches), 64 kilograms of weight (141 pounds).
He works as waiter, and was used to drink daily water 2,000 milliliter (half gallon), juices 1,000 milliliter (two pints), caffeinated soft drinks 2,000 milliliter (half gallon), and all the left over beers he could. He was complaining for the last 7 months of severe daily hyperemia in both eyes, chronic itching and eyelids edemas. He noted the development of a “thin skin” over his eyes. He also felt chronic sinusitis with nasal obstruction and coryza. He searched medical advice with three different medical ophthalmological physicians, received three different eye drops prescriptions, and noted that no one of them healed his problems. One of those physicians proposed him an ophthalmological surgery but without any guaranty of success, and he refused. His boss suspected him to use Marijuana, which he denies.

At ophthalmological examination we found his eyes with diffuse hyperemia, the beginning grow of four small Pterygium, one at each side of each eye. His intraocular pressures show 18 and 16 mmHg, which is reasonable. His Anterior chambers were deep. His both Optic Nerve’s disks show On direct ophthalmoscopy 0.1/1/0/0.5, (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) which is typical from the Cerebrospinal Fluid Hypertension Syndrome and explains all his symptoms, including the Pterygium aggressiveness without any other etiology. We prescribed him to stop all drinks.

After one month, the patient returned all better and without any drinks, referring occasional obstructive rhinitis and sneezing after eating very seasoned pork. His intraocular pressures show 13 mmHg in both eyes, which is physiologic. His Optic Nerve’s disks show reduction of the borders edemas, which are difficult to evaluate with the direct ophthalmoscope. We prescribed him his first myopic eyeglasses, with -2.50 spheric dioptre on each eye, and 30 tablets of Vitamin “A”, one each day. We also prescribed the withdrawn of the seasoned foods.

After another month, he came all better, cured. There remained only the nasal Pterygium at both eyes, both white, stabilized. The temporal ones resorbed.

Here we see the precocious sicknesses caused by caffeine, excessive water, beer and excessive seasoned food intolerance. The health of his eyes, for his entire life, only rely upon his will power, avoiding drinks and condiments that his brain and eyes do not tolerate.

These 153 patients with Ocular Hyperemia or Episcleritis also presented the following signs and symptoms:
- 57 patients (37.3%) had blepharitis because of rubbing the eyes with their hands;
- 41 patients (26.8%) felt frontal migraines;
- 41 patients (26.8%) felt tearfulness and rhinitis;
- 40 patients (26.1%) worsened on awakening;
- 24 patients (15.7%) felt ocular migraines;
- 24 patients (15.7%) felt temporal or at the head-top (vertex) Migraines.
- 10 women (11.6% out of the 86 women) worsened rhythmically during the menstrual cycle;
- 17 patients (11.1%) felt occipital migraines;
- 16 patients (10.5%) presented photophobia;
- 12 patients (7.8%) presented eyelid edemas;
- 10 patients (6.5%) suffered from nausea and retching or vomits;
Other patients presented signs and symptoms with lesser frequencies.
Eyes Redness, Cataract, Open-Angle Glaucoma and Blindness caused by Beer: We had one more or less white patient, 67-year-old, 1.68 meters (5 feet and 6 inches) tall, 62 kilograms (137 pounds) of weight. He presented many years of intense and complete episcleral hyperemia in both eyes, caused by more than 30 years of sustained 1,000 milliliter (two pints) of beer drinks each day. We explained him to stop this daily beer and medicated him, without success. He presented in both eyes with Cataract, and we successfully operated them. After the surgeries, he sustained the daily beer drinks and the intense and total eyes hyperemia, and resulted with chronic Open-Angle Glaucoma in both eyes. We warned him every time to stop the beer. His wife went away, but his housemaid kept the daily beer supply. After successful glaucomatous surgeries, he sustained the daily beer drinks with intense redness in both eyes. After few years, the anti-glaucomatous surgeries and all medicaments failed, and his entirely red eyes resulted with glaucomatous blindness. The daily beer was his choice. We do not know how much caffeine he drank, because 15 years ago we did not suspect anything about the caffeine intoxication, and we did not ask him about it. Now it is too late to ask him, because he is dead.

In the 153 patients with ocular hyperemia, we found:
- 69 patients (45.1%) presented minimal Optic Nerve’s disks edema;
- 38 patients (24.8%) presented evident (0.5 dioptre) Optic Nerve’s borders edema;
- 46 patients (30.1%) presented intraocular pressure of 17 mmHg or higher;
- 14 patients (9.2%) presented suspicion of glaucoma;
- 12 patients (7.8%) presented incipient glaucoma;
- 12 patients (7.8%) presented advanced glaucoma;
- Only five patients (5.9%) did not present any of the above Ocular disturbances.

The 153 patients with ocular hyperemia had the Etiologies:
- 84 patients (54.9%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 80 patients (52.3%) were consequent to excessive water drinks, with an average of 3,600 milliliter daily;
- 50 patients (32.7%) were consequent to beer drinks;
- 50 patients (32.7%) were consequent to caffeinated soft drinks;
- 47 patients (30.7%) were consequent to coffee, mate or tea drinks;
- 32 patients (20.9%) presented shallow eyes anterior chamber;
- 20 patients (13.1%) were consequent to medicaments that raise the fluid pressures;
- 17 patients (11.1%) were consequent to wine drinks.

We conclude that ocular hyperemia in 94.1% of patients is a signal of Cerebrospinal or Ocular Hypertension Syndromes.

VI-8 – Occipital Migraines: We collected 134 patients with occipital, or neck, or Stiff Neck migraines, nape neuralgia, or aches, or “Tension-Type migraines”. These 134 patients with Occipital Migraines also presented the following signs and symptoms:
- 87 patients (64.9%) worsened on awakening;
- 69 patients (51.5%) felt wide frontal migraines,
- 44 patients (32.8%) felt temporal or head-top (vertex) Migraines.
- 42 patients (31.3%) felt ocular migraines;
- 37 patients (27.6%) felt tearfulness and rhinitis;
- 33 patients (24.6%) presented blepharitis or itching eyes;
- 22 women (21.6% out of 102 women) worsened rhythmically during the menstrual cycle;
- 19 patients (14.2%) had nausea and retching or vomits;
- 17 patients (12.7%) presented eye redness (eye erythema);
- 15 patients (11.2%) presented eyelid edemas;
- 16 patients (11.9%) presented photophobia;
Other patients presented signs and symptoms with lesser frequencies.
The 134 patients with occipital migraines had the Etiologies:
- 80 patients (59.7%) drank too much water, with an average of 3.5 liters daily;
- 76 patients (49.7%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 59 patients (44%) drank coffee, mate or tea;
- 45 patients (33.6%) drank caffeinated soft drinks;
- 33 patients (24.6%) drank beer;
- 22 patients (16.4%) took medicaments that raise the fluids pressures;
- 7 patients (5.2%) drank wine;

Other authors also found these etiologies: At Munich, Germany... “A total of 1260 adolescents from the 10th and 11th grades of high schools... High consumption of cocktails (odds ratio = 3.4) and coffee (2.4), smoking (2.7), and lack of physical activity (2.2) were significantly associated with migraine plus tension-type headache episodes.” (Milde-Busch A, and others).

At these 134 patients with occipital migraines, we found the following during the examination:
- 76 patients (56.7%) presented minimal Optic Nerve's borders edema, and
- 23 patients (17.2%) presented evident Optic Nerve's borders edema.
- 14 patients out of these above 99 patients, presented also peri-vascular white sheaths around the Optic Nerve disk vessels.
- 18 patients (13.4%) suspects of glaucoma; some of these also with the minimal Optic Nerve’s borders edema.
- 15 patients (11.2%) presented incipient glaucoma;
- 5 patients (3.7%) presented advanced glaucoma.
- In only 7 patients (5.2%) we did not found any etiology to their occipital migraines.

We conclude that Occipital Migraine or tenderness of the pericranial and neck muscles, in 94.8% of patients is a symptom of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

Other physicians perform surgeries: “Of 206 patients (with occipital neuralgia), 190 underwent greater occipital nerve neurolysis (171 bilateral). Twelve patients underwent greater and lesser occipital nerve excision, whereas four underwent lesser occipital nerve excision alone... 80.5 percent of patients experienced at least 50 percent pain relief and 43.4 percent of patients experienced complete relief of headache. Surgical Neurolysis of the greater occipital nerve appears to provide safe, durable pain relief in the majority of selected patients with chronic headaches caused by occipital neuralgia.” (Ducic I, and others).

It is evident that these patients with occipital neuralgia, despite the definitive anesthesia caused by the surgical neurolysis, will continue to suffer from all the other signs, symptoms and sicknesses caused by the Fluids' Hypertension Syndromes and the caffeine toxicity. The neurolysis cured only the symptom, but not the etiologies or the sicknesses. And the sicknesses can be much more important than the aches.

VI-9 – Photophobia (Light sensitivity).: Between 931 migraine patients we collected 124 with Photophobia.

These 124 patients with photophobia also presented the following signs and symptoms:
- 56 patients (45.2%) presented wide frontal migraines;
- 44 patients (35.5%) felt tearfulness and rhinitis;
- 42 patients (33.9%) worsened on awakening;
- 32 patients (25.8%) had blepharitis because of rubbing their eyes with their hands;
- 18 women (25.7% out of the 70 women) worsened rhythmically during the menstrual cycle;
- 31 patients (25%) felt ocular migraines;
- 22 patients (17.7%) felt temporal or at the head-top (vertex) Migraines.
- 17 patients (13.7%) presented eyelid edemas;
- 16 patients (12.9%) presented eye redness (eye erythema);
- 16 patients (12.9%) felt occipital migraines;
- 12 patients (9.7%) presented dizziness - vertigo;
- 11 patients (8.9%) suffered from nausea and retching or vomits;
- 8 patients (6.5%) presented Chronic cough without any pulmonary lesion;
- 8 patients (6.5%) presented chronic sneezing;
- 6 patients (4.8%) presented obstructive rhinitis;
- 5 patients (4%) presented transient visual darkening;
And other lesser frequent signs and symptoms.

The 124 patients with photophobia had the Etiologies:
- 68 patients (54.8%) drank too much water, with an average of 3.3 liters daily;
- 62 patients (50.0%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 42 patients (33.9%) drank caffeinated soft drinks;
- 38 patients (30.6%) drank coffee, mate or tea;
- 35 patients (28.2%) presented intraocular pressure of 17 mmHg or more; out of these 35,
- 8 patients (6.5%) presented intraocular pressure of 22 mmHg or more;
- 32 patients (25.8%) drank beer;
- 20 patients (16.1%) presented shallow anterior chamber in their eyes;
- 9 patients (7.3%) drank wine;
- 8 patients (6.5%) took medicaments that raise the fluids pressures;
- 6 patients (4.8%) presented visceral disturbances.
- 4 patients (3.2%) used TV or computer excessively.

In these 124 patients with photophobia, we found during the examination:
- 60 patients (48.4%) presented minimal Optic Nerve's borders edema, and
- 27 patients (21.8%) presented evident Optic Nerve's borders edema. From these:
- 13 patients presented also peri-vascular white sheaths around the Optic Nerve disk vessels.
- 9 patients (7.3%) were suspects of glaucoma;
- 6 patients (4.8%) presented incipient glaucoma;
- 7 patients (5.6%) presented advanced glaucoma.
- In only 10 patients, (8.1%) we did not find any of the above disturbances.

We conclude that the main etiologies of photophobia (light sensitivity) are the excessive daily consumption of water, caffeine, beer, medicaments and wine; 91.9% of them presented Optic Nerves’ signs of Ocular or Cerebrospinal Fluids Hypertension Syndromes, and 17.7% of them had Glaucoma.

VI-10- Peri-vascular white sheaths around Optic Nerve’s disk vessels: Together with the small edemas of Optic Nerve’s disk margin, we found in some patients small and subtle visible edemas as peri-vascular white sheaths around the arteries and veins only at the Optic Nerve’s Disk. This aspect is typical of the Cerebrospinal Fluid Hypertension, so with Migraines with 9.7% of visible peri-vascular white sheaths out of 931 patients, so without Migraines with 5.3% of visible peri-vascular white sheaths out of 339 patients (Table VI-2).

| Peri-vascular white sheaths at Optic Nerve's disk vessels, in Cerebrospinal Fluid Hypertension Syndrome. |
|---|---|---|
| Total Patients | Patients with white sheaths | % |
| With Migraines or variants | 931 | 90 | 9.7% |
These 108 patients with peri-vascular white sheaths around the Optic Nerve’s disk vessels had the following etiologies:
- 63 patients (58.3%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 52 patients (48.1%) with the ingestion of an average of 3,300 milliliter of liquids daily;
- 42 patients (32.9%) with caffeinated soft drinks;
- 42 patients (32.9%) with beer drinks;
- 35 patients (24.2%) with coffee, mate or tea drinks;
- 9 patients (8.3%) with medicaments that increase the intraocular pressure;
- 9 patients (8.3%) with wine drinks;
- 6 patients (5.6%) with visceral disturbances;
- And other lesser frequent etiologies.

The Migraines, signs and symptoms most related with these 108 patients with peri-vascular white sheaths, were:
- 41 patients (38%) with wide frontal Migraines;
- 32 patients (29.6%) worsened on awakening;
- 23 patients (21.3%) with tearfulness and Rhinitis;
- 21 patients (19.4%) with itching eyes or blepharitis;
- 20 patients (18.5%) with temporal or head-top (vertex) migraines;
- 16 patients (14.8%) with ocular migraines;
- 16 patients (14.8%) with eye’s redness;
- 14 patients (13%) with occipital migraines;
- 13 patients (12%) with dizziness - vertigo;
- 13 patients (12%) presented photophobia;
- 7 patients (6.5%) presented nausea and retching or vomits;
- 7 patients (6.5%) with Chronic cough without any pulmonary lesion;
- 5 patients (4.6%) presented eyelids edemas;
- And other lesser signs or symptoms.
- Only 18 patients (16.6%) did not present any migraine, sign or symptom.

On their first exam, we found in these 108 patients with peri-vascular white sheaths:
- 74 patients (68.5%) presented evident (0.5 dioptre or more) Optic Nerve’s borders edema;
- 33 patients (30.6%) presented mild Optic nerve’s borders edema;
- 4 patients (3.7%) presented suspicion of glaucoma;
- 2 patients (1.9%) presented incipient glaucoma;
- No patient presented advanced Glaucoma;
- Only one patient, a man with 18-year-old and beer drinker presented white sheaths and no Optic Nerve’s borders edema or glaucoma.

We conclude that white sheaths around the Optic Nerve’s disk vessels are characteristic from the Cerebrospinal Fluid Hypertension Syndrome. They happen in 9.7% of patients with Migraines or variants, but also happen in 5.3% of patients without any migraine.
Curing 29 years of obstructive rhinitis and 19 years of bi-temporal and frontal Migraines. We had a 34-year-old, strong Black patient, newsgirl, 1.56 meters (5 feet and 1 inch) tall, 58 Kilograms (128 pounds), no child. All her ancestors were black. She was healthy, but complained of obstructive rhinitis at awakening since she was around 5-year-old, so strong that her mother sometimes took her to the hospital. She also complained about strong headaches on awakening, at the frontal and bi-temporal areas, since her 15-year-old. She tried many medicaments, but those symptoms always returned. She used eyeglasses and contact lenses. She used to drink coffee 1,000 milliliter (two pints), and water 1,500 milliliter (three pints) daily, and contraceptives. She did not drink beer or wine. On the examination, we found the need to new eyeglasses and new contacts. On direct ophthalmoscopy, she presented Optic Nerve’s disks of 0.3/3/0/0.5 and 0.2/1/0/0.5 (cup’s diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in the right and left eyes. She also presented white sheaths around the inferior arteries and veins at both Optic Disks. This examination demonstrates unquestionably the rise of the Cerebrospinal Fluid above the intraocular pressure, pressing both Optic Nerves from behind. The exact pressures measures have no use. The headaches and rhinitis all those years were the symptoms of it. We prescribed her the new eyeglasses and to shorten those drinks.

She came again after two years in order to do new eyeglasses and contacts. She told us that she had reduced the water and coffee, and now only drank water around 1,000 milliliter (two pints) and coffee 200 milliliter (half pint) each day. She felt no more rhinitis or headaches, and was grateful about it. The direct ophthalmoscopy show exactly the same aspect, which is consequent to the remaining daily coffee and contraceptives; but with the coffee reduction she made, the sleeping peaks of Cerebrospinal fluid’s tension disappeared, and with them also disappeared the matutinal rhinitis and headaches.

VI-11 – Menstrual Rhythmic Variation of Intraocular, Cerebrospinal and Inner Ears’ Fluids Pressures (Premenstrual syndrome) (Menstrual-related migraine) (Catamenial migraine):

Some women presented a cyclic worsening of their migraines with the menstrual periodicity, when the estrogen level peaks and falls.

From 772 women, 590 (76.4%) suffered with migraines; out of these 590 we collected 95 patients (16%) whose Migraines worsened with the menses.

The Migraines, signs and symptoms most worsening with the menses of these 95 patients, were:
- 64 patients (67.4%) with wide frontal Migraines;
- 53 patients (55.8%) worsened on awakening;
- 37 patients (38.9%) with temporal or head-top (vertex) migraines;
- 26 patients (27.4%) with tearfulness and Rhinitis;
- 23 patients (24.2%) with ocular migraines;
- 22 patients (23.2%) with occipital migraines;
- 18 patients (18.9%) presented photophobia;
- 17 patients (17.9%) presented nausea and retching or vomits;
- 16 patients (16.8%) with itching eyes or blepharitis;
- 13 patients (13.7%) presented eyelids edemas;
- 10 patients (10.5%) with eye’s redness;
- 7 patients (7.4%) with Chronic cough without any pulmonary lesion;
- 7 patients (7.4%) with dizziness - vertigo.

In addition, other lesser signs or symptoms.

The Etiologies of these 95 women with menstrual migraines, besides the menses, were:
- 58 patients (61%) drank too much water daily, with an average of 3.3 liters each day;
- 56 patients (58.9%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 36 patients (38%) drank coffee, mate or tea,
- 34 patients (36%) drank caffeinated soft drinks;
- 19 patients (20%) drank beer,
- 6 patients (6%) drank wine; two of these six drank beer and wine.

On their first exam, we found in these 95 patients with menstrual migraines:
49 patients (51.6%) presented mild Optic nerve’s borders edema;
27 patients (28.4%) presented evident Optic Nerve’s borders edema;
13 patients (13.7%) presented suspicion of glaucoma;
3 patients (3.2%) presented incipient glaucoma;
1 patient (1.1%) presented advanced Glaucoma;
Only 9 patients (9.5%) did not present Optic Nerve’s borders edema or glaucoma.

**Curing menstrual Migraines and Fibromyalgia caused by caffeine:** We had a 28 year-old nurse, 1.59 meters (5 feet and 3 inches) tall, 60 Kilograms (132 pounds) of weight, “Brazilian White” (one great-grandfather black, one great-grandmother Indian, all the others white). She complained about intense headaches on her eyes and bi-temporal areas, worsening with excessive computer work. She also complained of all head and body strong aches, mainly at the arms and legs joints (Fibromyalgia), related with her menses, every month. She did not use medicaments. For the last ten years she drank coffee 150 milliliter and guaraná 300 milliliter each day. At her examination we found small myopia of 0.5 dioptre each eye, intraocular pressures of 19 and 20 mmHg (which are a little high) in right and left eyes, and both Optic Nerve’s disks with 0/0/0/0.5 (Cup-disk diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is characteristic of the Cerebrospinal Fluid Hypertension Syndrome. Her Optic nerves had not any aspect of myopia or any cup caused by the increased intraocular pressures; they presented only the borders edemas. This shows that her Cerebrospinal Fluid Hypertension, which we cannot measure, is greater than her intraocular pressures.

**After two months without guaraná and with only 50 milliliters of coffee daily, she is cured from nearly all her aches. It remained only a small premenstrual migraine.**

Here we see an extreme inherited personal sensibility to caffeine, aggravated by the feminine hormones.

We conclude that menstrual migraine had high correlation with the Cerebrospinal Fluid Hypertension syndrome, and low correlation with Ocular Hypertension Syndrome or Glaucoma.

**VI-12- Inferior Eyelid edema at morning or chronic (eyelid purses):** It occurs recurrently at awakening without any inflammation (Table VI-1). When many times repeated, tends to become chronic or permanent. These edemas are spontaneous; they must not be confounded with the edemas consequent to eyelids rubbing with the patient’s fingers.

**Changing edema after surgery, caused by excessive water:** We had a white 65-year-old woman patient, who drank 4,000 milliliter of water daily for years, without any sign or symptom. When began the bilateral inferior eyelid edemas, she went to a plastic surgeon that submitted her to a surgery that removed both eyelid inferior purses. Months after the surgeries, she developed alternative big edemas of both her inferior bulbar conjunctivas, of about 5 millimeters height, without any inflammatory sign or ache. On her ophthalmological exam, we found on direct ophthalmoscopy that she presented also bilateral mild Optic Nerve’s borders edemas, signs of the Cerebrospinal Fluid Hypertension, caused by the excessive water drank daily. The operated inferior eyelids are now fibrous and will swell never more. Therefore, the excessive fluids found another place to drain. This edema probably came from the Cerebrospinal Fluid behind the Optic Nerve’s Lamina Cribosa, pass around the eye over the sclera and under the Tenon capsule, via the sub-Tenon space, until the inferior bulbar conjunctivas that swells.

We prescribed her to reduce the excessive water drank, but she never came back again.

We collected 85 patients with recurrent or chronic inferior eyelid edema.

**Out of these 85 patients with inferior eyelids edemas:**
- 57 patients (67%) drank too much water, with an average of 3.3 liters daily;
- 46 patients (54.1%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 35 patients (41%) drank caffeinated soft drinks, and
- 25 patients (29%) drank coffee, mate or tea;
- 18 patients (21.2%) drank beer;
- 6 patients (7.1%) drank wine
- 9 patients (10.6%) drank medications that raise the fluids pressures.

These 85 patients with inferior eyelids edemas also presented the following signs and symptoms:
- 37 (43.5%) felt frontal migraines,
- 36 (42.4%) worsened at morning.
- 35 (41.2%) had blepharitis consequent to fingers rubbing the eyes.
- 30 (35.3%) had tearfulness or rhinitis.
- 25 (29.4%) felt Ocular migraines.
- 20 (23.5%) felt temporal Migraines.
- 17 (20%) presented Photophobia.
- 14 (16.5%) presented eye redness (eye erythema);
- 10 (11.8%) presented Nausea and retching or vomits.
There were other signs and symptoms with lesser frequencies.

At the examination of these 85 patients with inferior eyelids edemas, we found:
- 36 patients (42.4%) presented mild Optic Nerve’s borders edemas, and
- 14 patients (16.5%) presented evident edemas (0.5 dioptre height);
- 5 from those Optic Nerve's borders edemas, also with white sheaths around the Optic Nerve disk vessels;
- 12 patients (14.1%) were suspects of glaucoma;
- 5 patients (5.9%) presented incipient Glaucoma;
- 8 patients (9.4%) presented advanced glaucoma.
- Only 7 patients (8.2%) did not present any Ocular or Cerebrospinal Fluids Hypertension Syndromes.

We conclude that the Inferior Eyelid edema, at morning or chronic, in 91.8% of patients is a sign from the Ocular or Cerebrospinal Fluids Hypertension Syndromes, and is an important sign of glaucoma.

We observed patients with upper eyelids edemas, and some of them with chalazion. Both disturbances are rare, and we did not made statistics about them.

“Blepharochalasis syndrome is separate and distinct from dermatochalasis and is a rare disorder that typically affects the upper eyelids. It is characterized by intermittent eyelid edema, which frequently recurs. This results in relaxation of the eyelid tissue and resultant atrophy. In approximately 50% of patients, it is unilateral. This syndrome can be separated into early and late phases. The early phase is divided further into hypertrophic and atrophic forms. The cause is probably a localized form of angiodyema. Sequelae include conjunctival edema and injection, entropion, ectropion, steatoblepharon, ptosis, and excessively thin skin.” (Gilliland, G G).

When the eyes forewarn the Glaucoma caused by caffeine and excessive water: We had an office cleaner mulatto (European, Indian and Black ancestors), 38-year-old man. He had 1.70 meters (5 feet and 7 inches) tall, 65 Kilograms (143 pounds) of weight. For around 20 years, he used to drink coffee 1,500 milliliter (50 fluid ounces), and water 3,000 milliliter (three quarters of a gallon) each day, without any sign or symptom. One month ago, his inferior left eyelid began to swell. After few days, the swell healed without medicament. One week ago, his right inferior eyelid swelled. There was no hyperemia, aches or secretions. At his ophthalmological exam, we found no need of eyeglasses. His intraocular pressures were 22 and 20 mmHg right and left eyes, which are moderately high. His Optic Nerves’ caps show 0.7/3/1/0 and 0.6/4/1/0 right and left eyes (Optic Nerve’s cap diameter/ cap’s depth/lamina Cribsa’s pores visibility/borders edema), which is the beginning of the glaucoma.

Luckily, his eyes forewarned him in time to medicate him and stop the glaucomatous evolution.
VI-13 – Nausea and retching, vomit, colic: We collected 76 with nausea and retching and/or vomit, and 2 with colic.

Out of these 78 patients with nausea and retching, vomit and colic, the main Etiologies were:
- 60 patients (77%) drank too much water, with an average of 3.6 liters daily;
- 54 patients (69.2%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 42 patients (54%) drank caffeinated soft drinks,
- 28 patients (36%) drank coffee, mate or tea;
- 18 patients (23%) drank beer;
- 14 patients (18%) presented eye’s shallow anterior chamber;
- 11 patients (14%) drank medicaments that raise the fluid pressures;
- 6 patients (8%) drank wine;
- 5 patients (6%) presented visceral disturbances.

These 78 patients with nausea and retching, vomit and colic presented:
- 37 patients (47.4%) felt wide frontal migraines,
- 37 patients (47.4%) worsened at morning.
- 34 patients (43.6%) felt temporal or head-top (vertex) Migraines.
- 22 patients (28.2%) had tearfulness or rhinitis.
- 17 patients (27.4% out of the 62 women) worsened during the menstrual cycle;
- 21 patients (26.9%) had blepharitis consequent to fingers rubbing the eyes.
- 19 patients (24.4%) felt occipital migraines;
- 19 patients (24.4%) felt Chronic cough without any pulmonary lesion;
- 18 patients (23.1%) felt Ocular migraines.
- 15 patients (19.2%) felt dizziness – vertigo;
- 12 patients (15.4%) presented Photophobia.
- 11 patients (14.1%) presented eye redness (eye erythema);
- 10 patients (12.8%) presented eyelid edemas;
- 7 patients (9%) felt sneezing.
There were other signs and symptoms with lesser frequencies.

On the examination of these 78 patients with nausea and retching, vomit and colic, we found:
- 36 patients (46.2%) presented mild Optic nerve’s borders edema;
- 27 patients (34.6%) presented evident Optic nerve’s borders edema (0.5 dioptre height);
- 3 patients (3.8%) presented Optic Nerve’s damage suggestive of glaucoma, but with Cup/Disk ratio of only 0.5;
- 9 patients (11.5%) presented suspicion of Glaucoma, including 8 from the above with mild Optic Nerve’s borders edema;
- 10 patients (12.8%) presented incipient Glaucoma,
- 7 patients (9%) presented advanced Glaucoma.
All patients with nausea and retching, vomit or colic presented some of the above disturbances.

We conclude that Nausea and retching, vomit and colic in all patients were symptoms from Ocular or Cerebrospinal Fluids Hypertension Syndromes, or from glaucoma.

VI-14 – Dizziness - vertigo and Migraines: We collected 65 patients with dizziness - vertigo and from these, two only when turning their head.

These 65 dizziness - vertigo patients also presented the following signs and symptoms:
- 28 patients (43%) felt frontal migraines,
- 22 patients (34%) felt temporal Migraines.
- 24 patients (37%) worsened at morning.
- 19 patients (29%) felt Ocular migraines.
- 19 patients (29%) had blepharitis consequent to fingers rubbing the eyes.
- 15 patients (23%) had tearfulness or rhinitis.
- 15 patients (23%) presented Nausea and retching or vomits.
- 13 patients (20%) presented Photophobia.
- 10 patients (15%) presented eye redness (eye erythema);

There were other signs and symptoms with lesser frequencies, and:
- 2 patients (3%) presented Otitis,
- 1 patient (1.5%) presented buzzing.

These 65 dizziness - vertigo patients had the Etiologies:
- 46 patients (71%) drank too much water, with an average of 3.3 liters daily;
- 40 patients (61.5%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 29 patients (45%) drank caffeinated soft drinks;
- 23 patients (35%) drank coffee, mate or tea;
- 16 patients (24%) drank beer;
- 13 patients (20%) took medicaments that raise the fluids pressures;
- 7 patients (11%) drank wine.

In these 65 patients with dizziness - vertigo, we found the following during the examination:
- 54 patients (83.1%) presented some Optic Nerve’s borders edema (29 minimal and 25 evident). From those 25 with evident Optic Nerve's borders edema, 13 patients presented also peri-vascular white sheaths around the Optic Nerve disk vessels.
- 15 patients (23.1%) presented Glaucoma, distributed as 6 suspects, 7 incipient, 2 advanced glaucomas; some of these suspects of Glaucoma also were included with the minimal Optic Nerve’s borders edema.
- Only one patient (1.5%) had nothing at her ophthalmological exam, supposed to be a pure Inner Ear’s disease. She was a 69-year-old woman, with hypertensive heart disease, who drinks 2,000 milliliter of water, medicaments, caffeinated soft drinks and coffee daily.

We conclude that in 64 from our 65 dizziness - vertigo patients, the Inner Ear’s Fluids Hypertension Syndrome occurred together with one of the other two Fluids Hypertension Syndromes.

Curing Migraines and dizziness - vertigo caused by stress, caffeine and excessive water: We had a 34-year-old, mulatta, 1.50 meters (4 feet and 11 inches) tall, 68 Kilograms (149 pounds), one child, office cleaner. She used to daily drink around 17 glasses of 300 milliliter each one, of juices and water, plus around 10 small cups of coffee with 50 milliliter each, added by one or two glasses of cola soft drink, for years. The total daily liquids drank was around 6,100 milliliter (1.5 gallon). Three months ago, stressed by monetary troubles, she began to present bi-temporal “pressure” headaches and sudden dizziness, many times a day. Some days she was better, but got worst suddenly one week ago. The clinician medical doctor found “all normal” with her health. In her eyes, we also found “all normal”, with intraocular pressures of 12 and 12 mmHg both eyes, and Optic Nerves’ cups 0.2/2/1/0 (cup diameter/cup depth/lamina cribosa’s pores visibility/ borders edema). She became better only reducing her water and caffeine drinks, added at the first week by oral Acetazolamide.

This was a very rare pure Inner Ears’ Fluids Hypertension Syndrome, caused by stress, excessive water and caffeine. As she was young and was medicated in time, she will not develop the definitive damage of Labyrinthitis.

VI-15 – Recurrent or Chronic cough without any pulmonary lesion:
We collected 62 patients with recurrent “dry” cough, with multiple diagnoses and medicaments but without cure.
These 62 patients with cough had the Etiologies:
- 45 patients (72.6%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 42 patients (67.7%) drank too much water, with an average of 3.6 liters daily;
- 27 patients (43.5%) drank caffeinated soft drinks;
- 24 patients (38.7%) drank coffee, mate or tea;
- 20 patients (32.3%) drank beer;
- 11 patients (17.7%) drank medicaments that raise the fluids pressures.
- 4 patients (6.5%) drank wine.

These 62 patients with Chronic cough without any pulmonary lesion also presented the following signs and symptoms:
- 30 patients (48.4%) felt wide frontal migraines,
- 26 patients (41.9%) had blepharitis consequent to fingers rubbing the eyes.
- 23 patients (37.1%) worsened at morning.
- 21 patients (33.9%) had tearfulness or rhinitis.
- 19 patients (30.6%) felt temporal or head-top (vertex) Migraines.
- 19 patients (30.6%) suffered from nausea and retching or vomits;
- 16 patients (25.8%) presented eye redness (eye erythema);
- 12 patients (19.4%) felt sneezing.
- 7 patients (11.3%) also with white sheaths around the Optic Nerve disk vessels;
- 8 patients (12.9%) presented Photophobia.
There were other signs and symptoms with lesser frequencies.

At the examination of these 62 coughing patients, we found:
- 29 patients (46.8%) presented mild Optic nerve’s borders edema, and
- 23 patients (37.1%) presented 0.5 dioptre Optic Nerve’s borders edema; from these,
- 7 patients (11.3%) also with white sheaths around the Optic Nerve disk vessels;
- 8 patients (12.9%) were suspects of Glaucoma;
- 7 patients (11.3%) presented incipient Glaucoma;
- 1 patient (1.6%) presented advanced Glaucoma;
- Only 1 patient (1.6%) did not present any visible Optic Nerve pathology.

We conclude that recurrent dry cough in 98.4% of patients is a sure symptom of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI-16 – Recurrent or chronic sneezing:
We collected 55 patients with recurrent sneezing, chronically medicated but without cure.

The 55 patients with recurrent sneezing had the Etiologies:
- 41 patients (74.5%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 37 patients (67%) drank too much water, with an average of 3.7 liters daily;
- 29 patients (53%) drank caffeinated soft drinks,
- 18 patients (32.7%) drank coffee, mate or tea;
- 10 patients (18.2%) drank beer;
- 8 patients (14.5%) drank medicaments that raise the fluids pressures.
- 6 patients (10.9%) drank wine.

These 55 patients with recurrent sneezing also presented the following signs and symptoms:
- 25 patients (45.5%) worsened on awakening;
- 22 patients (40%) felt tearfulness and rhinitis;
- 20 patients (36.4%) presented wide frontal migraines;
- 15 patients (27.3%) had blepharitis because of rubbing the eyes with their fingers;
- 14 patients (25.5%) felt temporal or at the head-top (vertex) Migraines.
- 13 patients (23.6%) presented Chronic cough without any pulmonary lesion;
- 11 patients (20%) felt ocular migraines;
- 11 patients (20%) presented obstructive rhinitis;
- 10 patients (18.2%) presented photophobia;
- 9 patients (16.4%) presented eye redness (eye erythema);
- 8 patients (14.5%) felt occipital migraines;
- 7 patients (12.7%) suffered from nausea and retching or vomits;
- 5 women (11.9% out of the 42 women) worsened rhythmically during the menstrual cycle;
- 4 patients (7.3%) presented eyelid edemas;
- 3 patients (5.5%) presented dizziness - vertigo;
- 1 patient (1.8%) presented transient visual darkening;
Moreover, other less frequent signs and symptoms.

At the examination of these 55 patients with recurrent sneezing, we found:
- 33 patients (60%) with mild Optic Nerve's borders edema;
- 15 patients (27.3%) with evident Optic Nerve's borders edema; out of these 15 patients,
- 9 patients (60.% of 15) had visible peri-vascular white sheaths around the Optic Nerve disk vessels;
- 6 patients (10.9%) were suspects of Glaucoma;
- 4 patients (7.3%) presented incipient Glaucoma; and
- 2 patients (3.6%) presented advanced Glaucoma.
- Only 1 patient (1.8%) did not present any Ocular or Cerebrospinal Fluids Hypertension Syndromes.
He was a 44-year-old man, drank beer and caffeinated soft drinks.

We conclude that recurrent sneezing in 98.2% of patients is an important symptom of Cerebrospinal and a minor symptom of Ocular Hypertension Syndromes.

- Familial Migraines, Glaucoma, Labyrinthitis and many other symptoms: We had a beautiful white 20-year-old woman, student, 1.62 meters (5 feet and 4 inches) tall, 53 Kilograms (116 pounds), no child, complaining for years of wide frontal and occipital headaches which worsen with fatty foods. She also felt eye's itching, papillary conjunctivitis, sneezes, and myopia. She used to drink water 3,300 milliliter daily, in addition to 300 or 600 milliliter of caffeinated soft drink. Her mother has Labyrinthitis; a grandfather and uncle had Glaucoma. At her ophthalmological examination we found Optic Nerves’ disks with 0.1/1/0/0.5 (Optic Nerve’s cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), with configures the Cerebrospinal Fluid Hypertension Syndrome. The tendency of all those signs and symptoms from the Fluids Hypertension Syndromes, except the myopia, were genetically inherited, but caused by caffeine and excessive water drunk daily. All (with the exception of the myopia) became better with the restriction of excessive water and caffeine.

VI-17- Diffuse Migraines: Between 931 migraine patients we collected 55 with Diffuse or non-localized Migraines.

The 55 patients with diffuse migraines also presented the following signs and symptoms:
- 16 patients (29.1%) worsened on awakening;
- 14 patients (25.5%) felt tearfulness and rhinitis;
- 9 patients (16.4%) had blepharitis because of rubbing the eyes with fingers;
- 4 women (13.8% out of the 29 women) worsened rhythmically during the menstrual cycle;
- 6 patients (10.9%) felt ocular migraines;
- 6 patients (10.9%) presented Chronic cough without any pulmonary lesion;
- 6 patients (10.9%) presented photophobia;
- 5 patients (9.1%) presented wide frontal migraines;
- 4 patients (7.3%) presented eye redness (eye erythema);
- 4 patients (7.3%) suffered from nausea and retching or vomits;
- 4 patients (7.3%) presented chronic sneezing;
- 2 patients (3.6%) presented eyelid edemas;
- 2 patients (3.6%) felt temporal or at the head-top (vertex) Migraines.
- 2 patients (3.6%) felt occipital migraines;
- 2 patients (3.6%) presented transient visual darkening;
- 2 patients (3.6%) presented obstructive rhinitis;
- 1 patient (1.8%) presented dizziness - vertigo;
And other lesser frequent signs and symptoms.

The Etiologies of these 55 patients with diffuse migraines were:
- 28 patients (50.9%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 22 patients (40%) drank too much water, with an average of 3.0 liters daily;
- 20 patients (36.4%) drank caffeinated soft drinks;
- 15 patients (27.3%) presented intraocular pressure of 17 mmHg or more;
- 13 patients (23.6%) drank beer;
- 10 patients (18.2%) drank coffee, mate or tea;
- 8 patients (14.5%) presented intraocular pressure of 22 mmHg or more;
- 6 patients (10.9%) presented shallow anterior chamber in their eyes;
- 4 patients (7.3%) drank wine;
- 4 patients (7.3%) used TV or computer excessively;
- 3 patients (5.5%) took medicaments that raise the fluids pressures;
- 1 patient (1.8%) presented visceral disturbances.

In these 55 patients with diffuse migraines, we found the following during the examination:
- 24 patients (43.6%) presented minimal Optic Nerve's borders edema, and
- 12 patients (21.8%) presented evident Optic Nerve's borders edema.
- From those above patients with Optic Nerve's borders edema, 4 patients presented also peri-vascular white sheaths around the Optic Nerve disk vessels.
- 4 patients (7.3%) were suspects of glaucoma;
- 5 patients (9.1%) presented incipient glaucoma;
- 2 patients (3.6%) presented advanced glaucoma.
- In only 10 patients (18.2%), 6 adults and 4 children, we did not find any of the above disturbances.

We conclude that diffuse migraines were associated with multiple other signs and symptoms of Ocular, Cerebrospinal and Inner Ears Fluids Hypertension Syndromes, and were important symptoms to Glaucoma.

VI-18 - Recurrent Obstructive Rhinitis or Nasal congestion or Nasal stuffiness (without coryza): Between the patients with some Migraine, we had 44 patients with this obstructive and dry recurrent rhinitis or Nasal congestion.

Out of these 44 patients with obstructive recurrent rhinitis, during examination we found the following:
- 18 patients (40.9%) with minimal 0.25 dioptre Optic Nerve's border edema;
- 22 patients (50%) with evident 0.5 dioptre Optic Nerve's borders edema; and at these patients,
- 10 patients (22.7%) with white sheaths around the Optic Nerve disk vessels.
- 3 patients (6.8%) with suspicion of Glaucoma;
- 3 patients (6.8%) with incipient Glaucoma;
- No patient (0%) with advanced Glaucoma.
- Only 2 patients (4.5%) were without any detectable pathology in their eyes; probably they had nasal sicknesses which we could not diagnose.

**Selecting the 38 patients with only obstructive rhinitis and without any glaucoma, their aches were:**
- 17 patients (44.7%) worsened at morning;
- 12 patients (31.6%) aches at the wide frontal area;
- 10 patients (26.3%) presented sneezing;
- 10 patients (26.3%) aches at the eyes;
- 5 women (19.2% out of the 26 women) worst their aches at menses;
- 7 patients (18.4%) presented Blepharitis or itching eyes;
- 7 patients (18.4%) aches at the temporal areas or at the head-top (vertex);
- 6 patients (15.8%) presented cough;
- 6 patients (15.8%) aches at the occipital area;
- 6 patients (15.8%) presented photophobia;
- 5 patients (13.2%) presented dizziness - vertigo;
- 3 patients (7.9%) aches at the ethmoid area;
- and many other lesser signs and symptoms..

**These 38 patients with only obstructive rhinitis had as main Etiologies:**
- 31 patients (81.6%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 23 patients (52.3%) drank excessive water or liquids, with an average of 3.6 liters every day.
- 18 patients (40.9%) drank caffeinated soft drinks;
- 15 patients (34.1%) drank coffee;
- 6 patients (13.6%) with beer drinks;
- 5 patients (11.4%) with medicaments that raise the cerebrospinal fluid pressure;

In addition, there were other smaller etiologies.

We conclude that recurrent obstructive rhinitis or Nasal congestion in 95.5% of patients was a symptom of the Cerebrospinal Fluid Hypertension Syndrome, and few of these simultaneously with the Ocular Hypertension Syndrome.

Comparing the above incidences of Glaucoma and Optic Nerves’ borders edema, out of these two kinds of rhinitis in the patients, we found (Table VI-3):

<table>
<thead>
<tr>
<th>Fluids Hypertension Syndromes</th>
<th>Recurrent Rhinitis</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Damage in patients’ eyes</strong></td>
<td><strong>Rhinitis with coryza or Rhinorrhea</strong></td>
</tr>
<tr>
<td>Ocular Hypertension Syndrome</td>
<td>Glaucoma suspects 10.3%</td>
</tr>
<tr>
<td>Cerebrospinal Fluid Hypertension Syndrome or Benign Intracranial Hypertension</td>
<td>Glaucoma incipient 7.5%</td>
</tr>
<tr>
<td></td>
<td>Glaucoma advanced 6.7%</td>
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<tr>
<td></td>
<td>Glaucoma total 24.5%</td>
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<tr>
<td></td>
<td>ON’s borders edema minimal 45.2%</td>
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<tr>
<td></td>
<td>ON’s borders edema evident 20.2%</td>
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<tr>
<td></td>
<td>ON’s borders edema total 65.4%</td>
</tr>
</tbody>
</table>

Table VI-3: Rhinitis with coryza or Rhinorrhea, and Obstructive Rhinitis or Nasal congestion, related with the incidence of Glaucoma and Optic Nerve’s borders edema. The higher values are marked **boldface**.
We conclude that Rhinitis with coryza or Rhinorrhea, and Obstructive Rhinitis, are different symptoms from different sicknesses: The Rhinitis with coryza or Rhinorrhea is more frequent with the Glaucoma and Ocular Hypertension Syndrome, and the Obstructive Rhinitis or Nasal congestion is more frequent with the Optic Nerve’s borders edema and Cerebrospinal Fluid Hypertension Syndrome.

- Curing awakening Rhinitis caused by caffeine and excessive water: We had an 18-year-old miss, white, 1.61 meters (5 feet and 3 inches) tall, 48 Kilograms (105 pounds), complaining of near-sightedness and obstructive rhinitis for years, worsening with awakening. She used to drink 2,000 milliliters (more than half gallon) of guaraná, water and tea daily. On the examination we found 0,5 dioptre of myopia and all “normal” at her both eyes exam. On direct ophthalmoscopy, she presented at both eyes with 0/0/0/0.75 (optic disk cup diameter/ cup depth/ visibility of lamina cribosas’ foramens/ height of Optic Nerves’ borders edema). This configures the Cerebrospinal Fluid Hypertension Syndrome, caused by drinking excessive water and caffeine daily, and her obstructive rhinitis was the only symptom of this, because she still is young. Whether this caffeine drinks would endure, other signs, symptoms, and damage would appear at their time. She can prevent them now, provided she stops the daily caffeine and excessive water drinks.

VI-19 – Visual Darkening, or Transient Blindness, or Amaurosis Fugax, or Retinal Migraine or Transient Hemianopsia:

We denominate as Retinal Migraines only those transient visual disturbances without any damage. Its mild form is the Transient Reduction of visual acuity, presented below at the item IV-33.

The transient blindness lasting for few seconds or minutes, occurred in 4% of all Migraines, or 39 patients from our statistics.

We found in these 39 patients with Amaurosis Fugax or Retinal Migraine:
- 15 patients (38.5%) with mild Optic Nerves’ borders edema;
- 11 patients (28.2%) with evident Optic Nerves’ borders edema. Out of these 11 patients:
  - 5 patients presented peri-vascular white sheaths around the arteries and veins at the optic Disk;
  - 10 patients (25.6%) presented eyes with shallow anterior chamber;
  - 7 patients (17.9%) presented intraocular pressure of 22 mmHg or more;
  - 2 patients (5.1%) with suspicion of Glaucoma;
  - 5 patients (12.8%) with incipient Glaucoma; and
  - 3 patients (7.7%) with advanced Glaucoma.

Two of these patients with Amaurosis Fugax or Retinal Migraine were women with 23 and 24-year-old, who drank 3.8 and 5.2 liters of water daily. They presented Cerebrospinal Fluid Hypertension at their left eyes and Normal (Peak) Tension Glaucoma at their right eyes (one suspect and familial Glaucoma, and the other incipient Glaucoma).

Only 1 patient (2.6%) did not present any of the above signs.

These 39 patients with Amaurosis Fugax or Retinal Migraine also presented more 113 other migraines, signs and symptoms:
- 18 patients (46%) with wide frontal Migraines;
- 13 patients (33%) with tearful or rhinitis;
- 12 patients (31%) worsened on awakening;
- 9 patients (23%) with ocular migraines;
- 7 patients (18%) with itching eyes or blepharitis;
- 7 patients (18%) with temporal or head-top (vertex) migraines;
- 7 patients (18%) with dizziness - vertigo.
- 7 patients (18%) presented photophobia;
- 6 patients (15%) presented nausea and retching or vomits;
- 5 patients (13%) with eye’s redness;
- 5 patients (13%) with occipital migraines;
- 4 patients (10%) presented eyelids edemas;
- 3 patients (8%) with Chronic cough without any pulmonary lesion;
And other lesser signs or symptoms.

The Etiologies of these 39 patients with Amaurosis Fugax or Retinal Migraines were:
- 28 patients (72% out of 39) drank too much water daily, with an average of 3.5 liters each day;
- 19 patients (48.7%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 12 patients (31% out of 39) drank coffee, mate or tea,
- 10 patients (26% out of 39) drank caffeinated soft drinks;
- 10 patients (26% out of 39) with eye’s shallow anterior chamber;
- 8 patients (21% out of 39) drank beer,
- 8 patients (21% out of 39) drank wine, 2 of these 8 drank beer and wine.
- 6 patients (15% out of 39) drank medicaments that raise the fluid pressures;
From only 2 patients (5%) we did not discover the etiologies.

Curing Migraines and Retinal Migraines caused by caffeine: We had a housewife with 3 children,
51-year-old, white, 1.56 meters (5 feet and 1 inch) tall, 58 Kilograms (127 pounds) of weight, who on
the last 5 years presented with bi-temporal and occipital headaches and some photophobia. She began
to feel visual darkening of the half side of his vision, lasting for some 5 minutes, recovering without
medicament, but relapsing after few days. She has Hyperopia and presents on direct ophthalmoscopy
the Optic Nerve’s disks with “crowded” aspect, with both eyes 0/0/0/0.5 (Cup diameter/ cup depth/
lamina cribosa’s pores visibility/ borders edema), and small sheathing around the arteries and veins at
the Optic Disks. This is typical of the Cerebrospinal Fluid Hypertension Syndrome. All of this was con-
sequent to the coffee 200-milliliter (7 fluid ounces), cola soft drink 900-milliliter (two pints), over-the-
counter caffeinated analgesics and some medicinal tea she used to drink daily for all those years.
After stopping these daily drinks and caffeinated medicaments, she became better from all the signs
and symptoms. Probably she also prevented the other sicknesses that could progressively occur.

We conclude that the Transient Blindness, or Amaurosis Fugax, or Retinal Migraine, in 97.4%
of our patients was a symptom mainly of the Ocular Hypertension and secondarily of the Cere-
brospinal Fluids Hypertension Syndromes.

VI- 20 – Ethmoid, or upper nose, or middle forehead, Migraines:
From our 931 patients with Migraines, we collected 26 patients with Migraines at the upper nose or
middle forehead area.

These 26 patients with Ethmoid migraine also presented the following signs and symptoms:
- 10 patients (38.5%) with tearful or Rhinitis with coryza (rhinorrhea);
- 9 patients (34.6%) worsened on awakening;
- 8 patients (30.8%) with wide frontal Migraines;
- 6 patients (23.1%) with itching eyes or blepharitis;
- 5 patients (19.2%) with eye’s redness;
- 4 patients (15.4%) with temporal or head-top (vertex) migraines;
- 4 patients (15.4%) with dizziness - vertigo.
- 4 patients (15.4%) with obstructive Rhinitis;
- 4 patients (15.4%) presented photophobia;
- 3 patients (11.5%) with ocular migraines;
- 3 patients (11.5%) with occipital migraines;
- 2 patients (7.7%) presented nausea and retching or vomits;
- 2 patients (7.7%) with Otitis;
- 1 patients (3.8%) presented eyelids edemas;
- 1 patients (3.8%) with Chronic cough without any pulmonary lesion;
And other lesser signs or symptoms.

**The Etiologies of these 26 ethmoid migraines were:**
- 16 patients (61.5%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 16 patients (61.5%) drank too much water daily, with an average of 3.3 liters each day;
- 13 patients (50%) drank coffee, mate or tea,
- 7 patients (26.9%) drank beer,
- 6 patients (23.1%) drank caffeinated soft drinks;
- 5 patients (19.2%) with eye’s shallow anterior chamber;
- 4 patients (15.4%) drank medicaments that raise the fluid pressures;
- 3 patients (11.5%) drank wine, 2 of these 3 drank beer and wine.

**On their first exam, we found that in these 26 patients with ethmoid migraines:**
- 13 patients (50%) presented mild Optic nerve’s borders edema;
- 9 patients (34.6%) presented evident Optic nerve’s borders edema;
- no patient (0%) presented suspicion of glaucoma;
- 3 patients (11.5%) presented incipient glaucoma, and one of these 3 with simultaneous Optic nerve’s borders edema;
- 1 patient (3.8%) presented advanced Glaucoma;
- only one patient (3.8%) did not present Optic nerve’s borders edema or glaucoma.

We conclude that Ethmoid Migraine has very high correlation with Cerebrospinal Fluid Hypertension syndrome (84.6%), and low correlation with Glaucoma (15.3%).

**Curing Migraines and many symptoms easily and fast, caused by caffeinated soft drinks:** *We had a boy with four-year-old, around 1.00-meter (3 feet and 3 inches) tall, 19 Kilograms (42 pounds) of weight, descendant of Portuguese, Indian and Black. He was very healthy, until he began to feel “allergic” obstructive rhinitis, photophobia, headaches at the middle of the frontal area (Ethmoidal), eyes itching and eyelids edemas. He used to drink daily more than 1,000 milliliter of cola soft drink, and more than this when he was at his grandmother’s house. On the examination, we found “all normal” with his eyes, except that both his Optic Nerves’ disks show 0/0/0/0.5 (Optic disk cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which configures the Cerebrospinal Fluid Hypertension Syndrome. We told his mother only to stop the soft drinks. After one month he came again, brightly and all cured, without any medicament. His Optic Nerves this time show 0/0/0/0.25 in both eyes. This Optic Nerve edema fast reduction only occurs on young ages.*

**VI- 21 – Bulbar sub-conjunctival Hemorrhage:** We had 13 patients with sudden bulbar sub-conjunctival hemorrhages.

**These 13 patients with bulbar sub-conjunctival hemorrhages also complained about:**
- 7 patients (53.8%) with wide frontal Migraines;
- 3 patients (23.1%) worsen their migraines at awakening;
- 3 patients (23.1%) with itching eyes or blepharitis;
- 2 patients (15.4%) with ocular migraines;
- 2 patients (15.4%) with eye’s redness (besides the hemorrhages);
- 2 patients (15.4%) presented nausea and retching or vomits;
- 2 patients (15.4%) presented eyelids edemas;
- 2 patients (15.4%) with Chronic cough without any pulmonary lesion;
- 1 woman (14.3% out of 7 women) with menstrual migraines.
- 1 patient (7.7%) with temporal or head-top (vertex) migraines;
- 1 patient (7.7%) with dizziness - vertigo.
- 1 patient (7.7%) with obstructive Rhinitis;
- 1 patient (7.7%) presented photophobia;
- 1 patient (7.7%) with occipital migraines;
- 1 patient (7.7%) with excessive sleepiness.

The Etiologies of these 13 patients with bulbar sub-conjunctival hemorrhages were:
- 9 patients (69.2%) drank too much water daily, with an average of 3.1 liters each day;
- 6 patients (46.1%) drank caffein, as coffee, tea, mate or soft drinks daily.
- 5 patients (38.5%) with eye’s shallow anterior chamber;
- 4 patients (30.8%) drank coffee, mate or tea,
- 4 patients (30.8%) drank beer,
- 4 patients (30.8%) drank caffeinated soft drinks;
- 2 patients (15.4%) drank medicaments that raise the fluid pressures;
- 1 patient (7.7%) drank wine and drank beer.

These 13 patients with bulbar sub-conjunctival Hemorrhages presented On the examination:
- 5 patients (38.%) with mild Optic Nerves’ borders edema;
- 3 patients (23.%) with evident Optic Nerves’ borders edema.
- 2 patients (15.%) with suspicion of Glaucoma;
- No patient (0%) with incipient Glaucoma; and
- 2 patients (15.%) with advanced Glaucoma.
- 1 patient (7.%) with shallow eye’s anterior chamber.
All patients with sub-conjunctival hemorrhage had one of the above pathologies.

We conclude that the bulbar sub-conjunctival Hemorrhage is a sure (100%) symptom of Ocular or Cerebrospinal fluids hypertension Syndromes.

VI- 22 – Ear’s migraines “Otitis”:
From our 931 Migraines patients, we collected 10 patients (1.1%) with recurrent aches (pain) at the ears, diagnosed as chronic or allergic Otitis, without any ear sign of inflammation. We consider that this symptom is only from the Inner Ears Fluids Hypertension Syndrome.

These 10 patients with ear’s migraines “Otitis” also complained:
- 5 patients (50%) with wide frontal Migraines;
- 4 patients (40%) worsen their migraines at awakening;
- 4 patients (40%) with itching eyes or blepharitis;
- 3 patients (30%) with obstructive Rhinitis;
- 2 woman (22% out of 9 women) with menstrual migraines.
- 2 patients (20%) with ocular migraines;
- 2 patients (20%) with eye’s redness;
- 2 patients (20%) presented nausea and retching or vomits;
- 2 patients (20%) with dizziness - vertigo.
- 2 patients (20%) presented photophobia;
- 1 patient (10%) with temporal or head-top (vertex) migraines;
- 1 patient (10%) with Chronic cough without any pulmonary lesion;
- 1 patient (10%) with occipital migraines.

Out of these 10 patients with Ears Migraines, the etiology was:
- 8 patients (80%) drank too much water, with an average of 3.2 liters daily; these included one child with 1.5-year-old and weighting only 9 Kilograms (20 pounds), who drank 1 liter (35 fluid ounces) of water daily, besides his milky nutrition.
- 6 patients (60.0%) drank caffein, as coffee, tea, mate or soft drinks daily.
- 3 patients (30%) drank caffeinated soft drinks;
- 3 patients (30%) drank coffee, mate or tea;
- 2 patients (20%) had familial glaucoma;
- 2 patients (20%) drank beer, and from these
  - 1 patient (10%) drank beer and wine.

At the ophthalmological examination of the 10 patients with “chronic Otitis”, we found:
- 5 patients (50%) presented mild Optic nerve’s borders edema, and
- 3 patients (30%) presented evident Optic Nerve’s borders edema,
- 1 patient from those above, with white sheaths around the Optic Nerves’ disk vessels;
- 2 patients (20%) presented intraocular pressure of 18 mmHg or more;
- 2 patients (20%) presented suspicion of Glaucoma, one with familial glaucoma;
- 1 patient (10%) presented incipient Glaucoma, with familial glaucoma.

We conclude that the Inner Ears fluids hypertension Syndrome ever occurs together with one of the other two Fluids Hypertension Syndromes.

VI- 23 – Visual Auras of Migraine (Fortification spectra): Visual auras are the most evident prodromic symptoms of migraines, between others. The aura usually lasts for 5 to 20 minutes. Usually they are consequent to the ischemia at the central nervous system: retina, Optic Nerve, or brain striate cortex, and the affected area manifests its dysfunction. The aura is not essential to migraine. Most patients do not have auras, and even those who felt them, also can have migraines without them.

The patient with Visual Aura without been immediately followed by a Migraine is denominated with “Acephalgic Migraine”.

From the 931 patients with some migraine, we collected 10 patients with visual auras: 9 women and 1 man, with average age of 46.9-year-old. These 10 patients also presented more 34 alternative signs and symptoms (Migraine variants).

The 10 patients with visual auras had other signs and symptoms:
- 5 patients with frontal migraines;
- 4 patients with ocular aches (pain);
- 3 patients with temporal or head-top (vertex) migraines;
- 2 patients with occipital migraines;
- 2 patients with diffuse migraines;
- 2 patients worsened their migraines at morning;
- 2 patients with eyelid edemas;
- 2 patients with tearfulness and Rhinitis with coryza or Rhinorrhea;
- 2 patients suffering from sneezing;
- 2 patients with Amaurosis Fugax;
In addition, other lesser frequent signs and symptoms.

All those above 10 patients with Aura presented Migraines. In this statistic, we did not have any Acephalgic Migraine.

The 10 patients with visual auras had the Etiologies:
- 8 patients (80%) drank caffeine, as coffee, tea, mate or soft drinks daily. The other 2 women, 1 with 17 year-old drank excessive water (3.100 milliliters) daily, the other with 83 year-old had advanced chronic open-angle high tension glaucoma in both eyes.
- 7 patients (70%) drank excessive water, with an average of 2.5 liters a day;
- 4 patients (40%) drank coffee;
- 4 patients (40%) presented shallow anterior chamber in their eyes;
- 3 patients (30%) drank soft drinks with caffeine;
- 2 patients (20%) drank tea;
- 2 patients (20%) drank beer; and
- 2 patients (20%) drank wine.
In these 10 patients with visual auras, we found:
- 6 patients (60%) presented intraocular pressures from 18 to 27 mmHg;
- 3 patients (30%) presented Glaucoma (2 incipient and 1 advanced);
- 5 patients (50%) presented minimal Optic Nerves’ borders edema (1 minimum and 4 evident), and 1 of these with peri-vascular white sheaths around the Optic Nerves’ disk vessels.
- All 10 patients with visual aura presented at least one of the above sicknesses.

We conclude that Visual Aura is a sure (100%) symptom of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI- 24 – Somnolence: From the 931 patients with migraines, we collected nine women (no man) with excessive somnolence, seven only at morning and two at other hours.

Their average age was 38.4-year-old. These nine patients presented more 43 other alternative signs and symptoms.

The most frequent signs and symptoms at these nine women were:
- 6 patients with tearfulness or rhinitis;
- 5 patients with ocular migraines;
- 5 patients with temporal or head-top (vertex) migraines;
- 4 patients with wide frontal migraines, and
- 4 patients with nausea and retching or vomits.
Between the other less frequent signs and symptoms,
- 1 patient, with advanced Glaucoma, presented paresis of both superior eyelids.

The nine patients with excessive somnolence had the Etiologies:
- 7 patients (78%) drank excessive water, with an average of 3.7 liters a day;
- 6 patients (66.6%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 5 patients (56%) drank soft drinks with caffeine;
- 4 patients (44%) drank coffee;
- 4 patients (44%) presented shallow anterior chamber in their eyes;
- 2 patients (22%) drank beer;
- 1 patient (11%) drank wine;
- 1 patient (11%) presented renal stones;
- 1 patient (11%) had excessive daily visual strain;
- 1 patient (11%) drank medicament which rise the fluid pressures;
- 1 patient (11%) presented visceral disturbances.

In these nine patients with excessive somnolence, we found:
- 6 patients (67%) presented intraocular pressures from 18 to 26 mmHg;
- 6 patients (67%) presented Optic Nerves’ borders edema (4 minimum and 2 evident),
- 4 patients (44%) had visibility of their lamina cribosa pores;
- 3 patients (33%) presented Glaucoma (1 suspect and 2 advanced);
- 1 patient (11%) with Optic Nerves’ borders edema had peri-vascular white sheaths around the ON’ disk vessels.
- All the nine patients with excessive somnolence had some of the above sicknesses.

We conclude that women’s excessive somnolence is a sure (100%) symptom of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI- 25 – Buzzing: From our 931 Migraines patients, we collected eight patients (0.8%) with Buzzing or sound disturbances. They were four men and four women, with average age of 43.1 years.

We consider that buzzing is a symptom only from the Inner Ears Fluids Hypertension Syndrome.
Out of these eight patients with Buzzing, the etiology was:
- 6 patients (78%) drank too much water, with an average of 3.8 liters daily;
- 5 patients (62%) drank caffeine, as coffee, tea, mate or soft drinks daily;
- 3 patients (37%) drank coffee, mate or tea;
- 2 patients (25%) drank caffeinated soft drinks;
- 2 patients (25%) drank beer.

In the eight patients with Buzzing or sound disturbances, on their examination we found:
- 5 patients (62.5%) presented mild Optic nerve’s borders edema, and
- 2 patients (25%) presented evident (0.5 dioptre or more) Optic Nerve's borders edema;
- 2 patients (25%) presented suspicion of Glaucoma;
- 1 patient (12.5%) presented incipient Glaucoma.
All patients with Buzzing were with some of the above disturbances.

We conclude that Buzzing is a sure (100%) symptom of the Inner Ears fluids hypertension Syndrome, occurring together with the Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI- 26 – Miosis or bilateral pupil shrink (Pupil diameter of 2 mm or less): From our Migraines patients, we collected eight patients (0.8%) with bilateral miosis without any related Ocular pathology.

These eight patients with Miosis had the Etiologies:
- 5 patients (62%) drank caffeine, as coffee, tea, mate or soft drinks daily;
- 5 patients (62%) drank too much water, with an average of 2.8 liters daily;
- 5 patients (62%) drank coffee, mate or tea;
- 4 patients (50%) drank beer and 1 of these drank beer and wine.
- 3 patients (37%) drank caffeinated soft drinks;

On their exam, we found:
- 4 patients (50%) presented some Optic nerve’s borders edema, one of them with white sheaths around the disk vessels, from the Cerebrospinal Fluid Hypertension Syndrome;
- 3 patients (37%) presented intraocular pressure of 18 mmHg or more;
- 1 patient (12.%) presented suspicion of Glaucoma;
- 1 patient (12.%) presented incipient Glaucoma.
All patients with bilateral miosis presented some of the above pathologies, and one patient with two of them.

We conclude that bilateral Miosis is a sure sign of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI- 27 - Maxillary aches (pain): From our Migraines patients, we collected seven patients (0.7%) with recurrent maxillary aches, diagnosed as chronic sinusitis, without any evident pathology. These patients were multi-medicated by other physicians, without cure.

These seven patients with Maxillary aches had the Etiologies:
- 4 patients (57%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 4 patients (57%) drank coffee, mate or tea;
- 3 patients (43%) drank too much water, with an average of 2.8 liters daily;
- 2 patients (29%) drank beer;
- 2 patients (29%) drank caffeinated soft drinks.
- 1 patient (14%) drank wine.

On their exam, we found:
- 6 patients (86%) presented some Optic nerve’s borders edema, 5 mild and one evident;
- 1 patient (14%) presented incipient Glaucoma.
All patients with maxillary aches presented some of the above pathologies.

We conclude that Maxillary aches (pain) are sure symptoms of Ocular (in 14%) or Cerebrospinal Fluids’ (in 86%) Hypertension Syndromes.

VI- 28 - Eyelid trembling (twitching): From our Migraines patients, we collected six patients with eyelid trembling, without any related Ocular pathology.

Out of these six patients with eyelid trembling, the etiology was:
- 4 patients (66%) drank too much water, with an average of 3.25 liters daily;
- 4 patients (66%) drank beer and one of these drank beer and wine.
- 3 patients (50%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 3 patients (50%) presented shallow anterior chamber;
- 2 patients (33%) drank caffeinated soft drinks;
- 1 patient (16%) drank tea.

On their exam, we found that:
- 4 patients (66%) presented intraocular pressure of 18 mmHg or more;
- 2 patients (33%) presented mild Optic nerve’s borders edema;
- 1 patient (17%) suspects of Glaucoma with 48-year-old and IOP RE=30 and LE=28 mmHg;
- 1 patient (17%) with incipient Glaucoma with 43-year-old;
- 1 patient (17%) with advanced Glaucoma with 31-year-old.
All six patients with twitching (trembling) eyelids presented at least one of the above sicknesses or signs.

We conclude that Eyelid trembling (twitching) is a sure sign of Ocular Hypertension Syndrome.

VI- 29 – Hoarseness, Laryngitis and Pharyngitis: From our Migraines patients, we collected 4 patients (0.4%) with chronic Hoarseness or Pharyngitis without any evident etiology. They were two men and two women, with average age of 53-year-old.

These four patients with Hoarseness or Pharyngitis had the Etiologies:
- 3 patients (75%) drank beer; out of these 3:
- 2 patients (50%) also drank wine.
- 1 patient (25%) drank caffeine, as coffee, tea, mate or soft drinks daily.
- 1 patient (25%) drank 6 liters of water daily;
- 1 patient (25%) drank coffee;
- 1 patient (25%) presented visceral disturbances.

On their exam, we found:
- 3 patients (75%) presented mild Optic nerve’s borders edema;
- 1 patient (25%) presented evident Optic Nerves’ borders edema.
All patients with hoarseness or Pharyngitis presented some Optic Nerve’s borders edema.

We conclude that chronic Hoarseness and Pharyngitis are sure signs of Cerebrospinal Fluid Hypertension Syndrome.

VI- 30 – Blinks excessively: From our 931 patients with some migraine, we collected four patients who blink excessively.
They were:
- 1 man with 65-year-old, with incipient glaucoma, who drank beer and had shallow eye’s anterior chamber;
- 1 woman with 39-year-old with evident Optic Nerve’s borders edema and drank 2 liters of water and a cup of coffee daily;
- 2 children with 2 and 3-year-old, who drank caffeinated soft drinks and one of them with medications that raise the fluid pressures.

We conclude that excessive blink is a sign of Ocular or Cerebrospinal Fluids Hypertension Syndromes.

VI- 31 – Mandible aches (pain). Temporomandibular joint syndrome: From our 931 patients with some migraine, we collected three women (and no man) with Mandible aches. They had average age of 37-year-old.

They were:
- 1 woman with 51-year-old, with incipient glaucoma, who drank 6.2 liters of water and a cup of coffee daily; this is an Ocular Hypertension Syndrome.
- 1 woman with 41-year-old with evident (0.5) Optic Nerve’s borders edema and peri-vascular white sheaths around the ON’ disk vessels, who drank 2.5 liters of water, beer and coffee daily; she had glaucomatous relatives. This is a Cerebrospinal Fluid Hypertension Syndrome.
- 1 woman 19-year-old, who drank caffeinated soft drinks and 3.5 liters of water daily; she had excessive computer visual strain, and complained also of wide frontal migraines. This is another Ocular Hypertension Syndrome.

“Temporomandibular joint syndrome: A disorder caused by faulty articulation of the temporomandibular joint and characterized by facial pain, headache, ringing ears, dizziness - vertigo, and stiffness of the neck.” (Microsoft Bookshelf 1998). This encyclopedic definition has these five symptoms, and all of them are consequent to the Fluids Hypertension Syndromes or the caffeine intoxication.

“Hemicrania continua, is typically characterized by a continuous, throbbing, unilateral headache... We present 2 cases in which initial symptoms suggested temporomandibular disorders but the patients were ultimately diagnosed with hemicrania continua.” (Taub D, and others).

We conclude that many patients with Mandible aches or diagnosed as Temporomandibular Joint Syndrome or Hemicrania continua are actually with the Fluids Hypertension Syndromes or the caffeine intoxication.

There are patients with Migraines who presents dental aches as their symptoms.

“The current understanding of neuroanatomy and headache mechanisms suggests that headache pain originates within intracranial structures and is then referred to the face, jaws, and teeth.” (Alonso A A, and Nixdorf D R).

- Curing Temporomandibular joint syndrome and other sicknesses caused by caffeine: We had a 50-year-old mulatta, 1.59 meters (5 feet and 3 inches) tall, 73 Kilograms (160 pounds), who used to drink daily 400 milliliter (13 fluid ounces) of coffee and 300 milliliter (10 fluid ounces) of Guarana. She presented three years ago with Thyroid nodules, gastritis, labyrinthitis and temporomandibular joint syndrome. After thyroid surgery, many medicaments, orthodontic treatment and reduction of coffee, she began to feel better; but only cured all those symptoms after complete elimination of coffee and soft drinks, five months ago. Now, she only presents at ophthalmoscopy the Optic Nerve’s Disks with 0.3/2/0.5 and 0.2/1/0/0.5 right and left eyes (cup diameter/ cup depth/ lamina cribosa pores visibility/ borders edema), demonstrating the past Cerebrospinal Fluid Hypertension she had, that caused almost all those sicknesses, now cured. These Optic Nerve’s disk borders edemas will take years to disappear. Probably the caffeine she drank for so many years also caused her Thyroid disease.

We had many patients referring thyroid disturbs and related with caffeine drinks, but we did not make statistics from this.
VI- 32 – Bulbar Conjunctival Cystic Edema: From our 931 patients with some migraine, we collected two women and one man with bulbar Conjunctival Cystic Edema without any hyperemia or inflammatory sign.

All three patients drank too much water daily. Two of them drank 4 liters (more than a gallon) each one. They were:
- One woman with 65-year-old with mild Optic Nerve’s borders edema.
- One man with 63-year-old who complained about tearful and rhinitis.
- The other woman, with 36 year-old, drank 3 liters (a little less than a gallon) of water daily. She complained of itching eyes. This woman had Advanced Glaucoma in both eyes, with intraocular pressures of 22 and 23 mmHg right and left eyes.

We did not find any other etiology to these three patients with Bulbar Conjunctival Cystic Edemas. These cystic edemas, between the sclera and the conjunctiva over it, can last days or months to reduce.

The etiology to all three patients with bulbar Conjunctival Cystic Edemas was excessive water drinks, with an average of 3.7 liters daily, associated with eye itching and rubbing.

- Curing infantile headaches and bulbar conjunctival cystic edema caused by caffeine and excessive water: We had a 5-year-old girl with around 15 Kilograms (33 pounds) of weight, who drank more than 1,000 milliliter of water and caffeinated soft drinks daily, and presented chronic diffuse headaches and itching eyes. She presented a bulbar conjunctival cystic edema at the right eye. Stopping the excessive drinks, she cured after only one week.

- Curing conjunctival cystic edema with five etiologies (in bold): Another patient was a woman with 51-year-old, 63 kg of weight, with five years of occasional use of beta-blocker eye drops. She was medicating for half dozen alternative headaches she presented. She worsens her aches drinking wine, excessive coffee and beer. Her intraocular pressures presented variation from 20 to 12 mmHg. Once felt urinate itching without infection, and her Urologist physician prescribed her to drink “much water daily”, and she began to drink 2,600 milliliter (more than half gallon) of water each day. After two weeks, she felt itching eyes, rubbed her eyes and presented abruptly with bulbar conjunctival cystic edema at her right eye, with mild hyperemia. This is a typical Fluid Hypertension Syndrome, with many signs and symptoms, caused by drinking wine, coffee, beer and excessive water daily, aggravated by the fingers rubbing her eyes.

We conclude that bulbar Conjunctival Cystic Edema is a sign of Ocular or Cerebrospinal Fluids Hypertension Syndromes, consequent to excessive water drinks and rubbing the eyes.

VI- 33 – Transient Reduction of visual acuity: Some patients presented occasional small reduction of visual acuity, of about one or two lines of Snellen’s chart, or a relative central scotoma. This made imprecise the ocular refraction during the intraocular or Cerebrospinal fluid pressure rise. This transient visual acuity disturbance lasts for minutes or hours. We observed that their visual acuity normalizes after lowering the fluids’ pressures. In consequence, even when the patient is not feeling anything, we try to normalize his intraocular and Cerebrospinal fluids’ pressures before the refraction examination to prescribe his correct glasses.

This is a mild Visual Darkening, or Transient Blindness, or Amaurosis Fugax, or Retinal Migraine or Transient Hemianopsia, above presented at the item IV-19.

We did not made statistics about this transient reduction of visual acuity, although it is very common.
Curing transient reduction of visual acuity caused by caffeine and excessive water: We had a white woman, broker, 50 year-old, 1.63 meters (5 feet and 4 inches) tall, weighing 65 Kilograms (143 pounds), complaining of intense migraines for years, many times examined and unsuccessfully medicated. She has high Hyperopia with +5.25 dioptre on right and +5.00 dioptre on left eyes, and even with her best eyeglasses correction she presented visual acuity of 0.8 and 0.9 at right and left eyes. Her intraocular pressures were 13 and 13 mmHg in both eyes. Her Optic disks show borders edema of about 1 dioptre in both eyes. She was a drinker of coffee 150 milliliter (5 fluid ounces) and some 4 liters (one gallon) of water daily. We told her to stop the caffeine and reduce the water drinks. After one month without caffeine and less water drank, she returned feeling better, without any migraine, and her visual acuity with the same eyeglasses was 0.95 and 1.0 at right and left eyes. This patient presented the typical recovery of visual acuity after reduction of her Cerebrospinal Fluid Hypertension Syndrome.

Curing transient reduction of visual acuity caused by caffeine and excessive water: We had a young and healthy white patient, economist, 23-year-old, 1.83 meters (6 feet) tall, weighting 79 Kilograms (174 pounds), myopic, who presented transient reduction of his visual acuity lasting for minutes and relapsing after few days. His exams were almost physiologic, intraocular pressures of 14 and 14 mmHg in both eyes, but his Optic Nerves disks show 0/0/0.5 and 0/0/0.75 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the Cerebrospinal Fluid Hypertension Syndrome. He was a daily drinker of coffee 150 milliliter (5 fluid ounces), guaraná and other caffeinated soft drinks 300 milliliter (10 fluid ounces), and water 2,700 milliliter (6 pints). We oriented him to stop all those drinks and reduce the water to the thirst needs, and he came after 3 months “all better” with his words. He was still presenting the Optic Nerves borders edema but not so evident, because this signal usually take years to disappear.

VI- 34 – Neuralgias, Back pain, Fibromyalgia, Joint pain, and Rheumatic aches (pain): We had patients with aches at many places for years, with multiple diagnosis and treatments, but no cure. When submitted to our treatment, described below, they have cured in around one month and without medicament. Other doctors measured its occurrence: “Fibromyalgia syndrome was present in 36.4% of patients and prevailed significantly in tension-type headache and in patients with higher headache frequency. Headache frequency, pericranial muscle tenderness, anxiety and sleep inadequacy were especially associated with Fibromyalgia syndrome comorbidity.” (Tommaso M, and others). A question to you: which of these sufferings can be caused by the caffeine? Don't you know? All of them!

VI- 35 – Migrainous facies: It is a dark color beneath or around both eyes, usually simultaneously on the four eyelids and a little beyond them. The migrainous facies pigmentation occurs simultaneously with small atrophy of the eyelids and the orbital fat, resulting in small bilateral enophthalmos.

We had patients with the migrainous facies caused by years of chronic Fluids Hypertension Syndromes, so intraocular with glaucoma, so Cerebrospinal fluid ones, and respective migraines. It can be caused by other diseases or by some eye drops that lower the intraocular pressure, mainly (but not exclusively) the prostaglandin analogues. We do not know its pathophysiology. We did not make statistics about this. Its excess seems to be the “Haggard appearance”.

Haggard appearance: There are authors connecting this appearance with the caffeine excess. Along our 40 years of ophthalmology, the few patients we saw with the Haggard appearance where suffering with the Human Immune-deficiency Virus (HIV), or with advanced Tuberculosis or Cancer.

VI – 36 - Other Signs and Symptoms: There are many other signs and symptoms caused by the Fluids Hypertension Syndromes, listed at the Summary, which we did not make statistics.
We conclude that most etiologies, aches, migraines and interchangeable signs and symptoms (Migraine variants) are common to the three Fluids Hypertension Syndromes, with small statistical differences between them. Few are the etiologies, migraines, signs or symptoms exclusive of only one Fluid Hypertension Syndrome.

We easily diagnosed these Migraines patients with the direct ophthalmoscopy of their Optic Nerves’ disks, the biomicroscopic examination of their anterior chambers, and the measure of their intraocular pressures. We diagnosed their etiologies by asking the patients about their daily drinks. We cured all patients who followed our treatment.

VI- 37 - Patients without any Migraine, Sign or Symptom:
At the examination of 339 patients without any migraine or variant, we found:

- a- 158 patients without any Ocular or Optic Nerve’s damage, and
- b- 181 patients with some damage or pathology.

Although these 181 patients did not complain anything, they presented on the examination:
- 111 patients (61.3% out of 181) with minimal (physiologic) Optic Nerve’s borders edema;
- 33 patients (18.2% out of 181) with evident (0.5 dioptre) Optic Nerve’s borders edema;
- 18 patients (9.9% out of 181 or 12.5% out of the above 144 (111+33)) with Optic Nerve's borders edema, also presented visible peri-vascular white sheaths around the Optic Nerve disk vessels.
- 20 patients (11% out of 181) suspects of Glaucoma;
- 10 patients (5.5% out of 181) with incipient glaucoma;
- 7 patients (3.9% out of 181) with advanced glaucoma;
- 19 patients (10.5% out of 181) with intraocular pressure of 17 mmHg or more;
- 5 patients (2.8% out of 181) with shallow anterior chamber;
- 4 patients (2.2% out of 181) with intraocular pressure of 22 mmHg or more.

We conclude that most patients feel the rise of their intraocular, cerebrospinal or inner ears fluids’ pressures, but there are patients who do not feel these rises at all, even with evident damage in their eyes.

There are patients that do not complain anything even when they should. These include Down syndrome patients diagnosed with pseudotumor cerebri, without any complaint of headache or transient visual obscuration. (Esmaili N, and Bradfield Y S).
VII) – High-tension Glaucoma.
Normal (Peak) (Low) Tension Glaucoma.
Posner-Schlossman Syndrome (Glaucomatocyclitic crisis).
Angle-closure Glaucoma.

Contents
A – High-Tension Glaucoma and Normal (Peak) Tension Glaucoma. Lack of correlation between intraocular pressure and Low-tension glaucoma.

Table VII-1: High-Tension and Normal (Peak) Tension Glaucoma at first exam, between the patients with Suspect, Incipient and Advanced Glaucoma.
B - Posner-Schlossman Syndrome (Glaucomatocyclitic crisis).
C - Angle-closure Glaucoma.
D - Congenital and Infantile Glaucoma.
E - Morning glory syndrome.

VII - A- High-Tension Glaucoma and Normal (Peak) Tension Glaucoma. Lack of correlation between intraocular pressure and Low-tension glaucoma.

Between our patients, we selected those who presented Glaucoma in at least one eye, and measured their intraocular pressure on the first exam. We split these glaucoma patients in two groups:
- High-tension glaucoma (HTG) with intraocular pressure of 22 mmHg or higher, and
- Normal (Peak; Low) Tension Glaucoma (LTG) with intraocular pressure of 21 mmHg or less.

They were:
- From the 57 patients suspects of Glaucoma, with Cup/Disc ratio of 0.6 with Cup deepness 3 or 4 dioptre or with Lamina Cribosa visibility grades 1, 2 or 3:
  6 patients presented HTG and 51 patients presented LTG.
- From the 53 patients with Incipient Glaucoma, with Cup/Disk ratio of 0.7 with Cup deepness 3 or 4 dioptre or with Lamina Cribosa visibility grade 3:
  10 patients presented HTG and 43 patients presented LTG.
- From the 47 patients with Advanced Glaucoma with Cup deepness 3 or 4 dioptre or with Lamina Cribosa visibility grade 3 and:
  - With Cup/Disk ratio of 0.8: 8 patients presented HTG versus 18 presented patients LTG;
  - With Cup/Disk ratio of 0.9: 8 patients presented HTG versus 7 patients presented LTG;
  - With Cup/Disk ratio of 1: 5 patients presented HTG versus 1 patient presented LTG (Table VII-1).

| Patients with High-Tension Glaucoma and Normal (Peak; Low) Tension Glaucoma |
|---------------------------------|-----------------|-----------------|-----------------|
| Glaucoma in the worst eye       | Total of patients | Normal (Peak) Tension Glaucoma Intraocular pressure of 21 mmHg or smaller | High-tension Glaucoma Intraocular pressure of 22 mmHg or bigger |
| Suspect (Cup/Disk ratio=0.6)    | 57 (100%)        | 51 (89%)        | 6 (11%)         |
| Incipient (Cup/Disk ratio=0.7)  | 53 (100%)        | 43 (81%)        | 10 (19%)        |
| Advanced (Cup/Disk ratio=0.8)   | 26 (100%)        | 18 (69%)        | 8 (31%)         |
Table VII-1: High-Tension and Normal (Peak) Tension Glaucoma at first exam, between the patients with Suspect, Incipient and Advanced Glaucoma.

<table>
<thead>
<tr>
<th>Advanced (Cup/Disk ratio=0.9)</th>
<th>15 (100%)</th>
<th>7 (47%)</th>
<th>8 (53%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced (Cup/Disk ratio=1)</td>
<td>6 (100%)</td>
<td>1 (17%)</td>
<td>5 (83%)</td>
</tr>
<tr>
<td>Total</td>
<td>157 (100%)</td>
<td>120 (76,4%)</td>
<td>37 (23,6%)</td>
</tr>
</tbody>
</table>

From this Table VII-1 we conclude that from all the glaucoma patients, as increase their damage, there are decreasing quantities of patients, from 57 patients Suspects of Glaucoma, to 53 patients with Incipient Glaucoma, and to 26 (Cup/Disk ratio=0.8) and 15 (Cup/Disk ratio=0.9) and 6 (Cup/Disk ratio=1) patients with Advanced Glaucoma.

We conclude that as increase their glaucomatous damage (glaucomatous Optic neuropathy), also increase the percentage of patients with high-tension glaucoma (intraocular pressure of 22 mmHg or more), from Suspects from Glaucoma with 11%, to Incipient Glaucoma with 19%, and to Advanced Glaucoma with 31% and 53% and 83%. Simultaneously, decrease the patients with Normal (Peak; Low) Tension Glaucoma, from 89%, to 81%, to 69%, to 47% and to 17% respectively.

We conclude that the patients with Normal (Peak; Low) Tension Glaucoma far exceeded those with High-Tension Glaucoma in almost all categories. In the patients Suspects of Glaucoma (89% of LTG versus 11% of HTG); in the patients with Incipient glaucoma (81% of LTG versus 19% of HTG); and in the patients with Advanced Glaucoma Cup/Disk ratio=0.8 (69% of LTG versus 31% of HTG).

Only in the Advanced Glaucomas Cup/Disk ratio=0.9 and 1, the High-tension Glaucomas were more frequent than the Normal (Peak; Low) Tension Glaucomas.

We conclude that the absolute majority (76,4%) of all glaucoma patients have their high intraocular pressures damage at other hours far from the medical office, because in the office examination their intraocular pressures are low (Intraocular pressure of 21 mmHg or smaller), or “normal”. Thus, the physicians denominate them as “Normal tension Glaucoma” or “Low-Tension Glaucoma”. They indeed are Peak Tension Glaucomas.

Similar result was found on the Beijing Eye Study 2006, which included 3251 subjects: Mean age was 60.4+/−10.0 years (range, 45-89 years). Glaucoma was defined by a glaucomatous appearance of the optic disc. More than 80% of the glaucoma subjects had an intraocular pressure measurement <22 mmHg.” (Xu L, and others). Other studies also confirm this higher incidence of Normal-tension glaucoma over the High-tension glaucoma.

- Typical Normal-Tension Glaucoma caused by beer drinks: We had a strong black worker, 32-year-old, 1.75 meters tall (5 feet and 9 inches), 85 kilograms (188 pounds). His security eyeglasses bother him, and he feels a little discomfort on his left eye. He usually drinks 5,000 milliliters (1.5 gallon) of beer in each Friday, Saturday, and Sunday. He has no aches or other complaints. On the examination, we found his eyes normal with deep physiologic anterior chambers, except with Optic Nerves' disks with 0.8/3/1/0 an 0.9/3/1/0 right and left eyes (cup diameter/cup depth/lamina cribosa's pores visibility/borders edema), which characterizes the advanced glaucoma. He presented a medium sized Pterygium in each eye and a little redness. His intraocular pressures were 16 and 14 mmHg, normal. His eyes' anterior chambers were deep, normal.

Does some medical doctor have any doubt about the beer, together with the inherited propensity, as the etiology of the “Normal-tension” glaucoma of this patient?

After 1 month without beer, and with Timolol Maleate eye drops at night in both eyes, he came better, with a small reduction of his Pterygium and no redness. The Optic nerve’s glaucomatous cups were the same, but the intraocular pressures show only 12 mmHg in both eyes. This way, he probably will keep his sight for the next 70 years, instead of becoming blind.
It is easy to cure the Low-tension glaucoma, isn't it? But on the label of the beer bottles and cans, there is no warning that it can cause glaucoma and blindness.

Similarly, low intraocular pressure at the office was found by Nakakura S and others, studying patients medicated for Glaucoma, who only 33.8% presented maximum 24-hours intraocular pressure at the office hours, and 66.2% presented it at night, after 9 PM and before 6 AM.

This is similar with the Tajimi Study findings, where “surprisingly, 92% of the Primary Open Angle Glaucoma patients diagnosed had Intraocular Pressure lower than 22 mmHg at the screening.” (Suzuki Y, and others).

Hasegawa K and others, studying intraocular pressure in Normal-Tension Glaucoma patients found that “the peak time was observed outside clinical hours (1800-0800) in 41.4% of the patients, and the trough time was observed during clinical hours (1000-1600) in 15.9%.”

“Intraocular pressure peaks were thus shown to have an association with the apparent progression of vision loss independent of the mean intraocular pressure.” (Zeimer R C, and others).

- Deciding to cure or to worsen the Normal Tension Glaucoma with 3 etiologies (in bold):
  
  We had a strong mulatto, 48-year-old, specialized worker, complaining of small blurring of his vision, weak glasses, and mild occasional right temporal and occipital headaches. He suffered from asthma but became better years ago. He drank daily coffee 1,000 milliliter (33 fluid ounces) and some beer at weekends, with hangover at the next morning, which he classified as “normal”. We examined him and found his old eyeglasses correct, not needing new ones. His intraocular pressures were 14 and 14 mmHg in both eyes (physiologic), but his Optic Nerve’s disks show 0.6/3/3/0.5 and 0.5/4/3/0.5 (Cup diameter/ cup deepness/ lamina cribosa’s pores visibility/ borders edema), which we configure as suspicion of glaucoma and Cerebrospinal Fluid Hypertension, both occurring at different hours. This is a patient beginning the glaucomatous damage, presenting simultaneously Ocular and Cerebrospinal Fluid Hypertension Syndromes, all caused by his ethnology, beer and coffee daily drinks. He presented few symptoms because he is a man and has 48 years. As most of the alcoholic drinkers, he considers the hangover as “normal”.

  We can not change his ethnology. He may decide: or he stops his drinks of beer and coffee and his Optic Nerve’s damage stabilize at its actual reasonable level, or he continues his pleasant drinks, and after some years, one physician will diagnose Normal (Peak) Tension Glaucoma at an advanced phase. The only treatment to stop this evolution and to prevent the Normal (Peak) Tension Glaucoma is his resolution to stop the beer and coffee drinks now.

In rats, the “Low-tension” glaucoma pathophysiology already was demonstrated: “The intraocular pressure was transiently elevated for 1 hour, 6 days weekly over 6 weeks... the mean baseline Intraocular pressure of 14.9+/-1.8 mm Hg increased to 35.3+/-2.6 mm Hg during 1-hour... the Optic nerve fiber layer thinning (22-25%) corresponded with a decrease (7-10%) in soma number in the ganglion cell layer. Optic nerves displayed axonal degeneration with a modest axon loss of 6%.” (Joos K M, and others). So, the wrong name “Low-tension” glaucoma should correctly be “Peak-tension” glaucoma.

VII – B - Posner-Schlossman Syndrome (Glaucomatocyclitic crisis) – It is caused by the caffeine. The caffeine was ever the etiology of this disease in our patients. This already was proven by other physicians:

In “Twelve patients with Glaucomatocyclitic crisis...The Flow-mediated vasodilation was much lower in the glaucomatocyclitic crisis group than in the control groups (mean 4.81% vs. 7.89%)... which implies peripheral vascular endothelial dysfunction.”(Shen S C, and others). As “coffee exerts an acute unfavorable effect on the endothelial function in healthy adults, lasting for at least 1 h after intake. This effect might be attributed to caffeine, given that decaffeinated coffee was not associated with any change in the endothelial performance.”(Papamichael C M, and others).
Caffeine and Glaucomatocyclitic crisis; relapse caused by cola drinks: We noticed a strong Brazilian white mulatto, nutrition student, 1.75 meter (5 feet and 9 inches) tall, 20-year-old, 68 kilograms (150 pounds) of weight. He was presenting typical Glaucomatocyclitic crisis at his right eye, with intraocular pressure of 55 mmHg in the crisis, and other signs of this Posner-Schlossman Syndrome, as right eye aches, little hyperemia, keratic precipitates, deep anterior chamber, pupil dilatation and blurred vision. What attracted our attention was the coincidence that he was a drinker of beer, caffeinated cola drinks, coffee and 3,300 milliliter (three quarters of a gallon) of water daily. He also presented in both eyes Optic Nerve’s disks with 0.1/1/0/0.75 (cup diameter/ cup depth/ lamina cribrosa’s pores visibility/ borders edema), which is characteristic of the Cerebrospinal Fluid Hypertension Syndrome. With proper ocular medicament and stopping all the caffeinated drinks, he became better in one week, presenting the right intraocular pressure of only 10 mmHg, and normal visual acuity.

After 4 months, he came again with another Glaucomatocyclitic crisis in the same right eye, and this time the crisis was caused only by 600 milliliter of daily cola soft drinks he drank in order to study better. It was evident that the caffeine etiology added to his personal susceptibility caused the Glaucomatocyclitic crisis. Do you have any doubt?

VII - C - Angle-closure Glaucoma: The patient that presents shallow anterior chamber at biomicroscopy, actually presents simultaneously two ocular pathophysiologies:

1st. - Increased resistance to the outflow of the intraocular Aqueous Humor, which is one risk factor to suffer from the Ocular Hypertension Syndrome, every day that the patient drinks other etiologies.

After many years, the patient can present Optic Nerve’s damage of a Low-tension (Peak-tension) glaucoma, or a Chronic High-pressure glaucoma.

2nd. - When not medicated nor advised to shorten or withdraw the etiologies, as beer, wine, caffeine and excessive water, this patient can suffer a sudden Acute Angle-closure Glaucoma crisis.

During the more than 40 years of ophthalmology, with more than 100,000 patients oriented, we never had even one patient under our care who presented the acute Angle-closure glaucoma crisis. All patients who came with this crisis had it before our orientation and were drinking some of those etiologies. Those rare patients that had very shallow anterior chambers, and even when medicated and withdrawn from other etiologies nevertheless presented peaks of ocular hypertension, were oriented to laser iridectomy or cataract surgery, which deepened the anterior chamber and consequently cured this risk factor, and simultaneously cured the eventual cataract.

We conclude that the acute Angle-closure glaucoma is one of the many signs, symptoms and sicknesses from the Ocular Hypertension Syndrome in some eyes prone to it, and it is preventable as all the other glaucomas.

“Among adults 50 and older Chinese in an urban area of southern China, data from 1248 right eyes were available for analysis. The mean anterior chamber depth values for men and women were 2.59 mm and 2.42 mm. Mean anterior chamber depth declined by 0.09 mm per decade (adjusted for gender) and was 0.18 mm shallower in women than men (adjusted for age). The anterior chamber depth was found to be monotonically associated with gonioscopic angle width, decreasing from 2.73 mm in Shaffer grade 4 to 1.94 mm in Shaffer grade 0. There was also a relationship between anterior chamber depth and refractive error; mean spherical equivalent decreased by 0.030 mm anterior chamber depth per dioptre.” (He M, and others).

We conclude that the ophthalmological examination of gonioscopy, which discriminate whether the eye is a “wide-angle” or a “closed-angle” glaucoma is useless, and we no more perform it.

VII - D – Congenital and Infantile Glaucoma: They are rare and preventable.
Generating an invalid for life: We had an 8-year-old nearly black boy, a little mentally deficient, that his mother and his teacher observed him with visual deficiency, which worsened each wakening. On the examination we found his both eyes with advanced glaucomatous optic neuropathies: Optic nerves with 0.9/4/2/0 (Cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema). His best corrected visual acuity was 20/100 (0.2) with each eye, which means a definitive visual deficiency for life. All the remaining ophthalmological examination was normal in both eyes, with deep anterior chambers and physiologic intraocular pressure at the office (10 mmHg). He had no other complaint or sickness, and no medicament. His mother with 26 year-old was a heavy drinker of coffee and colas daily, since years before he was born. She fed him daily with matutinal milk and plenty of coffee, and provided him with daily guaraná 300 milliliters. His glaucomatous optic neuropathy must have begun during the pregnancy, and increased during all those nights after birth. Now, the glaucomatous lesions are definitive. Here we see a rare unfortunate combination:

- Whether the mother had drank more caffeine than she did during the pregnancy, this caffeine-sensitive boy would have dyed before birth.
- Whether she did not drink any caffeine during the pregnancy, and did not fed him daily with caffeine, this boy would be healthy.
- As at Brazil, nobody advised her about the caffeine poisoning, she generated an invalid with blindness for life. Who is the guilty for this life suffering?

VII - E – Morning glory syndrome: It is a rare form of congenital glaucoma, caused by an embryo malformation. Probably it is caused by the caffeine drank by the pregnant mother, in addition to the genetic propensity of her embryo to this sickness. We had few cases of this sickness, and we could not study it.

VIII) - Glaucoma and Migraine

Contents
A - Migraines felt by the glaucoma patients.
Table VIII-1: Distribution of patients with Glaucoma, with and without Migraines.
B - Migraines most related with Glaucoma.
Table VIII-2: Migraines, Variants, Signs and Symptoms most related with the patients’ glaucomas.
C- Wisdom tooth aches (pain). Dental aches.
D- Cellulitis (infectious) in the cheek.

VIII - A - Migraines felt by the glaucoma patients:
We selected all patients with any eye classified as glaucoma and distributed them by their cup/disk ratios. The patient with right and left eyes in different stages was classified only by his worst eye.
We counted how many migraines, signs and symptoms the patients felt, and counted those patients who felt nothing, and obtained the following numbers (Table VIII-1):

<table>
<thead>
<tr>
<th>Glaucoma stage</th>
<th>Patients</th>
<th>With Migraines</th>
<th>No Migraines</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100%</td>
<td>%</td>
<td>Average</td>
</tr>
<tr>
<td>Worst eye</td>
<td></td>
<td></td>
<td>migraine</td>
</tr>
<tr>
<td>All Glaucomas</td>
<td>242</td>
<td>205</td>
<td>84.7%</td>
</tr>
<tr>
<td>Cup/Disk ratio = 0.6</td>
<td>105</td>
<td>85</td>
<td>81%</td>
</tr>
<tr>
<td>Cup/Disk ratio = 0.7</td>
<td>84</td>
<td>74</td>
<td>88.1%</td>
</tr>
<tr>
<td>Cup/Disk ratio = 0.8</td>
<td>30</td>
<td>25</td>
<td>83.3%</td>
</tr>
<tr>
<td>Cup/Disk ratio = 0.9</td>
<td>16</td>
<td>15</td>
<td>93.8%</td>
</tr>
<tr>
<td>Cup/Disk ratio = 1.</td>
<td>7</td>
<td>6</td>
<td>85.7%</td>
</tr>
</tbody>
</table>

Table VIII-1: Distribution of patients with Glaucoma, with and without Migraines.
This Table VIII-1 shows that an average of 85% of glaucoma patients has plenty signs and symptoms from the Glaucoma, with an average of three migraines, variants, signs or symptoms per patient. These patients are medicated by most physicians only for reducing their aches and other signs and symptoms, thus permitting the glaucomatous evolution without correct medicament.

“The superior portion of the retinal nerve fibers layers presented significantly smaller thickness values in the patients with migraines with aura, suggesting possible ischemic damage to the neural fibers, related to the migraine.” (Translated from Portuguese). (Medeiros, F A A and others).

“However, 12 of the 27 patients with Normal (Peak) Tension Glaucoma gave a history of common or classic migraine. This unexpected finding raises the possibility that migraine-related ischemia might be the pathogenic mechanism in some cases of normal tension glaucoma” (Corbett J. J. and others).

“The higher prevalence of headache in normal tension glaucoma patients, who were usually elderly, was especially striking when their age was considered, since headaches are less common in elderly normal subjects than in young normal subjects” (Phelps C D and Corbett J J).

Glaucoma and retinal nerve fiber layer lesions from the Migraines of intraocular pressure rise:

At the beginning, there are many migraines, few retinal nerve fibre layer lesions only at the temporal quadrant, and no glaucoma: “70 eyes of 70 patients (mean age 28.2 (SD 7.9) years) with migraine with or without aura... Optical coherence tomography was performed with the Stratus OCT... the temporal quadrant retinal nerve fibre layer thickness in the migraine patients was significantly lower than that of the control group, 62.2 (10.8) mum vs 70.8 (12.4) mum, respectively.. and was significantly correlated with the Migraine Disability Assessment Score and the frequency of migraine attacks... No one was qualified as having glaucomatous damage. We found a strong correlation between migraine severity and the retinal nerve fibre layer average thickness parameters.” (Martinez A, and others).

When years along not correctly medicated, the Optic Nerve’s disk cup of some patients with migraines of the Ocular Hypertension Syndrome can slowly get bigger, with progressive reduction of their Migraines. There is no clear borderline between the Intraocular pressure Migraine and the chronic Glaucoma: it is a progressive and continuous evolution, and both sicknesses are integrated. Each ophthalmological physician defines to himself were is the border of the glaucoma beginning. This definitions is useful for statistics, and useless for the patient's therapy.

Whether the physiologic and healthy Optic Nerve’s disk cup will evolve to some minimal glaucomatous damage (glaucomatous Optic neuropathy), and from this to still bigger and deeper disk’s cup with consequent glaucomatous visual field loss, it will depend from the fluids hypertension etiologies and treatment. The most common etiologies are the excessive liquids drank, caffeine, wine, beer, medications, all the patient’s life circumstances, aging, and the inherited Lamina cribosa’s frailty:

“Laminar thickness... was thinner in the primary open-angle glaucoma and normal tension glaucoma groups than in the normal control group.”(Park H Y, Jeon S H, Park C K).

The patients that have Optic Nerves’ disk Lamina Cribosa with endurance against the rise of the intraocular pressure and hardly turn cupped, are those:
- Who suffered uveal inflammation or with pre-disk membranes;
- Who have chronic edema from the Cerebrospinal Fluid pressure rise;
- With congenital thicker lamina cribosa.
- With congenital small disks, common in Hyperopia.

“Older age, larger cup-to-disc ratio, …, higher intraocular pressure, and thinner central corneal thickness appear to be good predictors for development of glaucoma in patients with ocular hypertension” (Lee, B L, Wilson M R).

Whether and when the Optic Nerve’s disk cup reaches the size of 0.7 of the whole Optic disk diameter and with 3 or 4 dioptries of deepness, or with lamina cribosa pores visibility grade 3 (perfectly visible), which we consider as incipient glaucoma, the patient’s Migraines turns milder or are substituted by some of the other signs or symptoms. This occurs after many years of Migraines or variants, regardless the nowadays value of intraocular pressure or age.
One 64-year-old man patient explained: “I had Migraines during many years, but now I am free from them.” Now his eyes have glaucoma!

When it is too late: A patient with 45-year-old, man, mulatto, presented with the story of having normal vision until he was 10-year-old, living at a remote county area. Then he became user of 20 to 40 cigarettes a day, and after each cigarette, drank one little cup of coffee and one glass of water. The total drunk was more than 1,000 milliliter of coffee and 9,000 milliliter of water daily. To this, he added some beer at weekends and some guaraná. After more or less 10 years of this regimen, he began to feel “big aches at his eyes and head” (Migraines?) and without proper treatment became blind in three months of aches (Acute glaucoma?). As the aches and profuse tears persisted, after years he was submitted to anti-glaucomatous surgeries in both eyes, which alleviated his symptoms. No doctor prescribed him any regimen. In spite of his blindness, he kept the drinking and smoking habits, sustained by his mother and his wife, and now he is again with profuse tears in both blind eyes, without aches. Consequent to the corneal deformities caused by the surgeries, the applanation tonometry is inaccurate, but shows something around 50 mmHg in each eye (The surgeries failed). This is an example of a complete destruction of a man’s vision and life, from pleasant excessive consumption habits of tobacco, coffee, water, beer, and caffeinated soft drink, which began when he was only 10-year-old. Who should have advised him?

Twenty years of Migraines preceding the Glaucoma: A typical patient: We had a charwoman with black, Indian and white ancestors, 61-year-old, 1.57 meters (5 feet and 2 inches) tall, 59 Kilograms (130 pounds) of weight, complaining of steady blurring of her left eye. She presented Arterial Hypertension already medicated, and no other sign or symptom. She used to drink coffee 1,000 milliliter (33 fluid ounces), tea 1,000 milliliter (33 fluid ounces) and water more 2,000 milliliter (half gallon) each day, through the last 30 years. At weekends she drank caffeinated soft drinks 600 milliliter (20 fluid ounces), and once a month a cup of wine. After repeatedly questioned, she remembered that between her 30 and her 50-year-old, she presented intense headaches at her bi-temporal and occipital areas, but there are many years that she does not feel any headache. On the examination, with the best correction, we found visual acuity of 50% on her right eye and less than 10% on her left eye. The intraocular pressures were 23 and 19 mmHg right and left eyes. Her Optic Nerves' disks show 0.8/4/0/0 and 1.0/4/0/0 (Cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which is Advanced Glaucoma.

Here we see the headaches caused by caffeine and excessive water drank daily by a susceptible person, which preceded for around 30 years her blindness from glaucoma.

We conclude that the intraocular pressure higher than the physiologic value of the patients, some hours each day, repeating thousands days, damaged their Optic Nerve fibers and caused Glaucoma, and the Migraines were their symptoms.

We conclude that the common medical assertion that “the Glaucoma progresses without signs or symptoms” is false for an average of 85% of the glaucoma patients, and it is only true for an average of 15% of them.

We also conclude that the treatment of the migraine's aches, without prescription of the diet nor any eye-drops to lower the eye's pressure, is bad medicine and induce to the glaucoma.

VIII- B - Migraines most related with Glaucoma: We selected the patients with Migraines, variants, signs and symptoms and surveyed their Glaucoma.

By decreasing the glaucoma incidence, they were (Table VIII-2):
<table>
<thead>
<tr>
<th>Migraines, Variants, Signs and Symptoms</th>
<th>Patients</th>
<th>Glaucoma</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity</td>
<td>Average ages years</td>
</tr>
<tr>
<td>1. Lamina cribosa pores visibility</td>
<td>388</td>
<td>39.6</td>
</tr>
<tr>
<td>2. Twitching eyelids</td>
<td>6</td>
<td>44.8</td>
</tr>
<tr>
<td>3. Buzzing, deafness</td>
<td>8</td>
<td>43.1</td>
</tr>
<tr>
<td>4. Somnolence</td>
<td>9</td>
<td>38.4</td>
</tr>
<tr>
<td>5. Nausea and retching or Vomit</td>
<td>78</td>
<td>34.4</td>
</tr>
<tr>
<td>6. Mandible aches (pain)</td>
<td>3</td>
<td>37</td>
</tr>
<tr>
<td>7. Scleral cystic edema</td>
<td>3</td>
<td>54.7</td>
</tr>
<tr>
<td>8. Bulbar subconjunctival Hemorrhage</td>
<td>13</td>
<td>49.7</td>
</tr>
<tr>
<td>9. Otitis</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>10. Visual Aura. Fortification spectra.</td>
<td>10</td>
<td>46.9</td>
</tr>
<tr>
<td>11. Eyelid Edema</td>
<td>85</td>
<td>43.9</td>
</tr>
<tr>
<td>12. Maxillary</td>
<td>7</td>
<td>36</td>
</tr>
<tr>
<td>13. Occipital</td>
<td>134</td>
<td>41.8</td>
</tr>
<tr>
<td>14. Cough</td>
<td>62</td>
<td>35.2</td>
</tr>
<tr>
<td>15. Visual darkening</td>
<td>39</td>
<td>43.2</td>
</tr>
<tr>
<td>16. Blepharitis, Itching eyes</td>
<td>238</td>
<td>39.3</td>
</tr>
<tr>
<td>17. Miosis</td>
<td>8</td>
<td>51.9</td>
</tr>
<tr>
<td>18. Blinks excessively</td>
<td>4</td>
<td>27.3</td>
</tr>
<tr>
<td>19. Hyperemia</td>
<td>153</td>
<td>42.1</td>
</tr>
<tr>
<td>20. Ocular Migraine</td>
<td>187</td>
<td>40.8</td>
</tr>
<tr>
<td>21. Rhinitis, Tearful</td>
<td>252</td>
<td>38.8</td>
</tr>
<tr>
<td>22. Dizziness - vertigo</td>
<td>65</td>
<td>42</td>
</tr>
<tr>
<td>23. Matutinal worsening</td>
<td>295</td>
<td>40</td>
</tr>
<tr>
<td>24. Sneezing</td>
<td>55</td>
<td>34.6</td>
</tr>
<tr>
<td>25. Wide Frontal</td>
<td>376</td>
<td>37.7</td>
</tr>
<tr>
<td>26. Diffuse migraines</td>
<td>55</td>
<td>33.4</td>
</tr>
<tr>
<td>27. worsening with menses</td>
<td>95</td>
<td>33.4</td>
</tr>
<tr>
<td>28. Photophobia (light sensitivity)</td>
<td>124</td>
<td>36.7</td>
</tr>
<tr>
<td>29. Temporal migraines and head-top (vertex)</td>
<td>193</td>
<td>35.5</td>
</tr>
<tr>
<td>30. Ethmoid migraines</td>
<td>26</td>
<td>35.6</td>
</tr>
<tr>
<td>31. Rhinitis obstructive (Nasal congestion)</td>
<td>44</td>
<td>31.6</td>
</tr>
<tr>
<td>32. Hoarseness, Pharyngitis</td>
<td>4</td>
<td>53</td>
</tr>
</tbody>
</table>
We marked **boldface** the more relevant numbers of each category. Each patient can present one or more sign or symptom simultaneously.

**- Migraines, stress, caffeine and Glaucoma:** We had a white patient, bookkeeper, 57-year-old, 76 kilograms, 1.77 meters (5 feet and 10 inches) tall, complaining from intense and diffuse Migraines, buzzing, gastritis, “empty head”, and feeling losses in his left side visual field. He uses myopic eyeglasses for distant vision and needs nothing for near vision. He was user of cola soft drink, green tea, few coffee and water 1,200 milliliter (40 fluid ounces) daily. Every time he woke with strong migraines at 3:00 AM, he self-medicate with cafeinated analgesics. He explained that his work kept him very stressed. On his exam, we found the necessity of small correction of his eyeglasses, intraocular pressures of 18 and 20 mmHg, which are moderately high. Nobody knows his higher intraocular pressures when he woke at 3:00 AM with migraines. His anterior chambers were deep, physiologic. His Optic Nerve’s disks show 0.6/3/1/0.25 and 0.7/3/2/0.25 right and left eyes (Cup-disk diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the suspect and incipient glaucomas, besides the Cerebrospinal Fluid Hypertension. We prescribed him new eyeglasses, stopping all caffeine drinks, and Timolol Maleate eye drops twice daily.

After six months, he came referring better with almost all symptoms, but still feeling strong migraines at 3:00 AM which he was medicating with a Triptan. He was using Timolol Maleate once a day; his intraocular pressures show 18 and 16 mmHg. His Optic Nerves cups show worst aspect, of 0.7/3/1/0.5 and 0.8/3/1/0.25 right and left eyes. We increased the Timolol eye drops to three times daily and Acetazolamide 125 mg (half pill) per mouth at lunch.

After another month, he came almost without any Migraine, his intraocular pressures were 16 and 16 mmHg, and his Optic Nerves show no borders edema, which were substituted by borders atrophy. Stopping all the caffeine he was using by four ways, although we could not stop his professional stress, the medicament stopped his glaucomatous progression and the respective Migraines from the Ocular and the Cerebrospinal Fluids Hypertension Syndromes.

We conclude that Migraines can be symptoms of an actual Glaucoma, or the presage of a future Glaucoma.

This evolution from the Migraine of intraocular pressure rise to glaucoma will depend from the patient’s susceptibility and from various etiologies, some here described, along the patient’s life.

Other medical doctors also found the relation of headaches and migraines with glaucoma:

“These data suggest the possibility of an association between history of typical migraine headache and open-angle glaucoma, which could be modified by age.” (Wang JJ and other).

On 77 patients (61 female, 16 male) “who attended our Neurology outpatient clinic complaining of headache and were diagnosed as migraine…visual field tests revealed glaucomatous-like defects in 48 (62.3 %) patients. Intraocular pressure levels were within normal limits in all cases. The glaucomatous group was significantly older…A tendency of pain and visual field defects to develop ipsilaterally was noticed…A possible relationship between the pathophysiology of migraine, visual field defects and glaucomatous optic neuropathy is emphasized and visual field screening for normal tension glaucoma is recommended in patients with migraine.” (Comoglu S, and others).
Occipital Migraines and Open Angle Glaucoma caused by Inheritance, Caffeine and Beer: On the year of 1997, we had a sailor Mulatto, with half-black and half-white ancestors. He was 34 years-old, 1.64 meters (5 feet and 5 inches) tall, weighting 98 kilograms (216 pounds). He never had the eyes examined or used eyeglasses. He was complaining about occipital migraines which worsened at fasting. He saw visual disturbs and “little stars” during around 10 minutes, daily. He was user of some beer at weekends, and around 300 milliliters (10 ounces) of coffee daily. For headaches relieving, he medicates with caffeinated over-the-counter analgesics. On the ophthalmological exam, he did not need any eyeglasses; he presented intraocular pressures of 26 and 24 mmHg in right and left eyes, which are high. His anterior chambers were deep, physiologic. In direct ophthalmoscopy, his Optic Nerves show 0.7/3/1/0 and 0.7/4/1/0 right and left eyes (cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which is incipient Glaucoma. We told him to stop the beer drinks, and prescribed him Timolol Maleate eye drops 0.5% twice a day, to lower his intraocular pressures. He spent 10 years abroad without any ophthalmological exam, using inconstantly the eye drops. He continued to drink beer at weekends and caffeine daily.

Now, after 10 years, he is back with 45 year-old, explaining that using the eye drops his migraines almost disappeared. On the exam, we found the need of eyeglasses for near vision. His intraocular pressures show 22 mmHg in both eyes, which is still high. His Optic Nerve’s disks show 0.8/4/2/0 and 0.8/4/1/0 right and left eyes, which is Advanced Glaucoma. We prescribed him to increase the eye drops use to twice daily, to stop the beer, and this time we prescribed him to stop all caffeine in coffee, soft drinks and medicaments. Next month, when he returns without beer or caffeine, we will be able to verify whether this eye drop is correct for him.

VIII- C- Wisdom tooth aches (pain). Dental aches: We had a healthy and beautiful young patient, 26 years-old, 1.64 meter tall (5 feet and 4 inches), weighting 58 kilograms (128 pounds), Brazilian white, no child. She is a physical education teacher and is studying to become a nurse. Since some 10 years ago, she is suffering with bi-temporal migraines, which spread to her teeth, and she surgically removed her 4 wisdom teeth trying to get relieve, without success. Her migraines worsen at awakening and before her menses. She learned at the physical education college to drink “plenty of water”, and actually she drinks 4.4 liters (more than a gallon) of water daily. She also drinks 600 milliliters (20 fluid ounces) of caffeinated soft drinks (Cola), and a small chocolate daily. On the ophthalmological exam, we found her Optic Nerve's disks cups with 0.6/3/1/0 and 0.8/3/3/0 right and left eyes, which means a suspect and an advanced glaucomatous lesions. Her intraocular pressures showed 20 and 20 mm Hg, which are higher than the physiologic, but they still are not “high pressure”. Her eye's anterior chamber were deep. All this configure a “Low-tension glaucoma”.

We prescribe her to shorten the excessive water and to stop the colas and chocolate. We also prescribed her Timolol Maleate eye drops twice daily. After one and a half month she came free from all her aches. Her intraocular pressures where 15 and 16 mm Hg. Her Optic Nerve's disks lesions probably will not worsen more, which means that she will not have any blinding risk on her future, but unhappily they will not recede, nor her wisdom teeth will re-grow again.

VIII- D- Cellulitis (infectious) in the cheek: It is a very rare sickness, caused by the Ocular Hypertension Syndrome.

We had a beautiful mulatta, 28 year-old, one child, housemaid. Since her childhood she is suffering with rhinitis and nasal obstruction, now-a-days medicated with nasal spray with corticosteroids and anti-allergic pills. She feels chronic back aches, insomnia, and limbs tremors when drinking coffee. From 3 weeks until now she is feeling daily left eye aches and left migraines. She was examined by many doctors, including ophthalmologists, who found nothing and only medicated her sufferings with analgesics. She was a daily drinker of coffee 100 milliliters (3 fluid ounces), guaraná 250 milliliters (8 fluid ounces), “cidreira” grass (Cymbopogon citratus) teas, and water 2,400 milliliters (2/3 of a gal
She presented in the last two years with infectious cellulitis in her left cheek, hardly cured with strong antibiotics pills, and which relapsed more two times with months between them, all three times in the same cheek. Her eyes were chronically a little red, and she presented small pterygium in both eyes.

On her examination of direct ophthalmoscopy we found advanced glaucomatous cup, with 0.8/3/1/0 (cup diameter/ cup deepness/ lamina cribosa's pores visibility/ borders edema) in both eyes, which explains her head symptoms. The other somatic symptoms were caused by the caffeine intoxication. Her intraocular pressures in the office was 15 mm Hg in both eyes, which is normal. The anterior chambers were a little shallow but within the normality. Obviously, those glaucomatous Optic nerve's cups were caused by the high intraocular pressure when sleeping. This is the diagnosis of the “Low-tension (or Normal-tension) Glaucoma”.

Her treatment was easy: stopping all caffeine, teas, excessive water drank and all medicaments. To insure the daily low intraocular pressure, including when sleeping, we prescribed her Timolol Maleate 0.5% eye drops twice daily.

Her infectious cheek cellulitis were caused by the small cheek edema caused by the Ocular Hypertension Syndrome, in addition to the scratching with her fingers infecting that skin. Now, resolving the Ocular Hypertension syndrome, never more will this cellulitis or the other symptoms relapse, besides preventing the glaucomatous blindness in her future. She shall be a healthy woman! This is very good, isn't it?
IX) – Optic Nerve’s Lamina Cribosa Pores – Visibility and Pathophysiology.

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A – Physiology of the Healthy Optic Nerve’s Lamina Cribosa.
Scheme IX-1: Healthy eye without Migraines.
B - Pathophysiology of the Optic Nerve's Lamina cribosa pores and Optic Nerve’s disk cup.
  Scheme IX-2: Optic Nerve’s fibers atrophy with visibility of the Lamina Cribosa pores.
  Scheme III-2 (repeated here): Direct ophthalmoscopic view of Optic Nerve’s disk 0.7/3/3/0.
C – We had 388 patients with some visibility of the Optic Nerve's Lamina Cribosa Pores.
  Scheme IX-3: Optic Nerve’s atrophy and visibility of the Lamina Cribosa pores with simultaneous
  Edema of the remaining Optic Nerve’s borders.
D - Glaucoma evolution of simultaneous Ocular Hypertension and Cerebrospinal Fluid Hypertension.

IX - A – Physiology of the Healthy Optic Nerve’s Lamina Cribosa: Physiologically, the healthy
human being presents some equilibrium between the intraocular pressure and the Cerebrospinal Fluid
pressure at the other side of the Optic Nerve’s disk and respective Lamina Cribosa (Scheme IX-1). At
head-up positions, the physiological intraocular pressure is between 10 and 16 mmHg, and the Cerebrospinal fluid pressure is between zero (0) and 10 mmHg. These pressures are healthy to the eye.

Physiologically, at the seated position, the intraocular pressure is around 5 to 10 mmHg higher than
the cerebrospinal fluid pressure. Many etiologies (excessive water drank, caffeine, wine, beer, and oth-
ers) cause temporary ups and downs of the Cerebrospinal Fluid and the intraocular pressures, but not
simultaneously, breaking the equilibrium between them and stretching one side or the other of the Op-
tic Nerve’s disk and respective Lamina Cribosa. When one of this stretching pressure is too much
above or below the other, the lamina cribosa bows and aches as Migraines and all the other signs
and symptoms.

After expelling the excessive fluids from the body, all the pressures reduce and the Migraine finishes.
There might be compensatory mechanisms that physiologically equalize the fluids’ pressures at both sides of the Optic Nerve's Lamina Criboasa when necessary, but this pressures equalization is not instantaneous. The equalization of the Cerebrospinal fluid pressure with the inner ear’s pressure is made by the Ductus Endolymphaticus, which might be instantaneous. The Fluids Hypertension Syndromes at the Optic Disk and Acoustic Nerve only happen because these compensatory pressures equalizer mechanisms delay, were damaged and obstructed, or were supplanted.

When the Cerebrospinal fluid pressure is too much rose, it squeezes all the body’s nerves and they suffer, their functions are disturbed, and they ache.

**IX – B - Pathophysiology of the Lamina cribosa pores and Optic Nerve’s disk cup:** When there is an intraocular pressure higher than 16 mmHg or too much higher than the cerebrospinal fluid pressure, it squeezes the Optic Nerve’s Lamina Criboasa from inside the eye to the outside (to the Optic Nerve), and it aches as Migraines and other alternative signs and symptoms. This intraocular squeeze, when it is bigger than the blood pressure in the arterial capillaries at the retina, or repeated hundreds of times, causes the atrophy of the retinal ganglion cells and respective Optic Nerve’s fibers.

“In open-angle glaucoma with normal intraocular pressure, cerebrospinal fluid pressure is abnormally low, leading to an abnormally high trans-lamina cribosa pressure difference. Pathogenetically, a low cerebrospinal fluid pressure in normal intraocular pressure glaucoma may be similar to a high intraocular pressure in high intraocular pressure glaucoma. Consequently, the glaucomatous visual field defect is positively correlated with the trans-lamina cribosa pressure difference and inversely correlated with the cerebrospinal fluid pressure. In nonglaucomatous subjects, cerebrospinal fluid pressure, blood pressure and intraocular pressure are significantly associated with each other.”(Ren R, and others).

The progressive atrophy of the Optic Nerve’s fibers causes visible increasing cupping of this nerve, to all directions: in diameter (horizontal, vertical or oblique), in deepness, and in visibility of the Lamina cribosa's pores, and this is the glaucomatous damage or glaucomatous neuropathy. (Scheme IX-2).

Most of these changes of the Optic Nerve's cup are well known, but the Lamina Criboasa's pores visibility is not. The actual Optic Nerve's photographic devices do not show well the pores, because the Lamina Criboasa is 4 dioptre far from the retinal focus plane. The nowadays best instrument to see the Lamina Criboasa’s pores is the direct ophthalmoscope.
Scheme IX-2: Optic Nerve’s fibers atrophy with visibility of the Lamina Cribosa pores, caused by the intraocular pressure higher than the Cerebrospinal Fluid pressure or the capillary arterial pressure at the retina. This is the glaucomatous damage (glaucomatous Optic neuropathy). Whether the patient still has no visual field loss verifiable by the physician's instrument, the patient with this glaucomatous damage is wrongly classified as Normal (healthy, without glaucoma).

The pores visibility occurs with any excavation (cup) diameter, with deepness of three or four dioptre (maximum), seldom with only two dioptre. The visibility of the Lamina Cribosa’s pores is caused only by the glaucomatous Optic neuropathy. No other sickness, condition or etiology causes the visibility of the Lamina Cribosa’s pores.

Scheme III-2 (repeated here): Direct ophthalmoscopic view of Optic Nerve’s disk 0.7/3/3/0 (0.7 = Cup-Disk diameter/ 3 = Cup depth/ 3 = Lamina Cribosa's pores perfectly visible / 0 = no border edema) = Incipient Glaucoma.

This visibility of pores is not mandatory. In the children and teenagers the Optic Nerve's damage occurs more easily and with lower intraocular pressure, and more frequently and accurately we saw their Lamina Cribosa’s pores. In the patients that begin this damage over fifty years of age, the Optic Nerves are more resistant to damage and hardly the laminar pores are visible, even in cups actually with glaucomatous progression.

The visibility of the pores from the Lamina cribosa lessens very slowly: the excavations with progressive damage, before treatment presented accurately visible sharp pores, gray dark, perfectly contrasting with the white of the Lamina Cribosa surface. At the stationary cup due to the reduction of intraocular pressure, after months or years the lamina cribosa turns cloudy, turning light gray, progressively losing its pores sharpness. The pores can be visible for more than twenty years, if the intraocular pressure does not reduce lower than 16 mmHg all the hours and all the days, or say, if the treatment is insufficient.
We conclude that the pores visibility of the Lamina cribosa in the Optic Nerve’s cup bottom is evidence of damage of this nerve’s fibers caused by the pathological rise of the intraocular pressure, repeated during months or years, and they are felt as Migraines. This association of migraines with visibility of Lamina Cribosa’s pores is a diagnosis of the Glaucoma slowly progressing.

Meanwhile, these patients also can have simultaneously the other two Fluids Hypertension Syndromes.

We found that from the 388 patients with visibility of their Lamina Cribosa pores, only 16.2% with high (22 mmHg or more) intraocular pressure at the office exams.

We conclude that 83.8% of patients with visibility of the Lamina Cribosa pores suffer from high intraocular pressures at other hours far from the medical office.

- **Migraines, excessive water and Normal tension glaucoma:** On the year 1999, we had a 33-year-old patient, mathematic teacher, Brazilian white, no child, 1.66 meters (5 feet and 5 inches) tall, 60 Kilograms (132 pounds) of weight. She was myopic of 3.50 dioptre at both eyes and needed eyeglasses and contact lenses. On direct ophthalmoscopy we found Optic Nerve’s cups of 0.6/2/1/0 (cup-disk diameter/cup depth/lamina cribosa’s pores visibility/borders edema). Her intraocular pressures were 12 and 12 mmHg in both eyes, physiologic anterior chambers, and she complained about nothing.

  On the year 2000, she came for another eyeglass, and we found her Optic Nerve’s cups of 0.6/3/1/0 in both eyes.

  On the year of 2002, she came again and this time she told us that she was suffering from daily frontal headaches at awakening for the last four years, without diagnosis. This time she told us about drinking “too much water daily”, and we prescribed her to shorten this excessive water. All the rest of the examination was equal to the anterior.

  She came again on the year 2007, complaining of left temporal headache at awakening, both eyes itching, tearfulness, and obstructive rhinitis. We found on direct ophthalmoscopy the Optic Nerve’s cups of 0.7/4/2/0 and 0.6/4/2/0 right and left eyes, which is a significant progression of this Normal (Peak) Tension Glaucoma. She was drinking daily 19 glasses of water of 300 milliliter each, totalizing 5,700 milliliter daily (one and a half gallon), because she felt the mouth dry. The intraocular pressures on applanation tonometry at the office still show 12 and 12 mmHg in both eyes, which is physiologic. Nobody knows her intraocular pressures after drinking plenty of water and when sleeping.

  This is a good example of a progressive Normal (Peak) Tension Glaucoma and respective Migraines and variants, caused only by daily excessive water drank during many continual years.

IX - C – We had 388 patients with some visibility of the Lamina Cribosa's Pores (grades 1 to 3) in at least one eye, at the bottom of their Optic Nerves’ cups. Grade 0 is no visibility.

These 388 patients presented at their worst eye:
- 192 patients (49.5%) with visibility grade 1 (feebly visible);
- 151 patients (38.9%) with visibility grade 2 (well visible);
- 45 patients (11.6%) with visibility grade 3 (perfectly visible).

These 388 patients with some visibility of their Lamina Cribosa's pores, presented:
- 314 patients (80.9%) with some Migraine, or any other sign or symptom;
- 137 patients (35.3%) with wide frontal Migraines;
- 102 patients (26.3%) had their Migraines worsened at morning;
- 87 patients (22.4%) with tearfulness and rhinitis;
- 81 patients (20.3%) with itching eyes or blepharitis;
- 74 patients (19.1%) without any Migraine, sign or symptom;
- 65 patients (16.8%) with ocular Migraines or aches;
- 35 women (15.6% out of the 225 women) with menstrual migraines;
- 57 patients (14.7%) with temporal or head-top (vertex) Migraines;
55 patients (14.2%) with occipital Migraines;
51 patients (13.1%) with ocular redness;
48 patients (12.4%) with photophobia;
And other lesser frequent signs and symptoms.

These 388 patients with visibility of their Lamina Cribosa's pores had the following Etiologies:
- 185 patients (47.7%) with excessive ingestion of water, with an average of 3,400 milliliter of liquids daily;
- 173 patients (44.6%) drank Caffeine daily, as coffee, tea, mate or soft drinks.
- 108 patients (27.8%) with caffeinated soft drinks;
- 107 patients (27.6%) with coffee, mate or tea drinks;
- 92 patients (23.7%) with beer drinks;
- 73 patients (18.8%) with Ocular shallow anterior chamber;
- 34 patients (8.8%) with medicaments that increase the intraocular pressure;
- 26 patients (6.7%) with wine drinks;
- 24 patients (6.2%) with excessive TV or computer use;
- 19 patients (4.3%) with familial Glaucoma;
And other lesser frequent etiologies.

At the exams of these 388 patients with visibility of their Lamina Cribosa's pores, we found:
- 207 patients (53.4%) with some edema of the Optic Nerve’s borders, so distributed:
  - 188 patients (48.5%) with minimal (0.25 dioptre) edema of the Optic Nerves;
  - 19 patients (4.9%) with evident (0.5 dioptre) edema of the Optic Nerve;
- 118 patients (30.4%) with intraocular pressure of 17 mmHg or bigger;
- 35 patients (9%) with intraocular pressure of 22 mmHg or bigger;
- 203 patients (52.3%) with some degree of glaucoma, so distributed:
  - 94 patients (24.2%) with suspicion of glaucoma;
  - 73 patients (18.8%) with incipient glaucoma;
  - 36 patients (9.3%) with advanced glaucoma.
- 80 patients from the 203 (39.4%) patients with glaucoma also were between the 207 (38.6%) patients with some Optic Nerve’s borders edema, in the same eye or in the other eye.
- Only 44 patients (11.3%) did not present any of the above disturbances.

We conclude that although the visibility of the Lamina Cribosa's pores is a damage consequent from the intraocular pressure rise, confirmed by the high incidence (52.3%) of glaucoma, these patients also presented a high incidence (53.4%) of Cerebrospinal fluid pressure rise, confirmed by the Optic Nerve's borders edema.

The occurrence in the same eye of Lamina Cribosa's pores visibility and Edema of the remaining Optic Nerve's borders, is only possible when at some hours the intraocular pressure was higher than the Cerebrospinal Fluid pressure, and at other hours it was the contrary (Scheme IX-3):
Scheme IX-3: Optic Nerve’s fibers atrophy and visibility of the Lamina Cribosa's pores with simultaneous Edema of the remaining Optic Nerve’s borders, caused by the higher pressures alternation: Some hours the higher is the intraocular pressure, and some hours the higher is the Cerebrospinal Fluid pressure.

We conclude that the intraocular and the Cerebrospinal Fluids pressures rises occurred at different hours, in around 39% of the patients with Normal (Peak) Tension Glaucoma.

Glaucoma together with Cerebrospinal Fluid Hypertension caused by caffeine: On January, 2008, we had a 57 year-old artisan, 5 children, Mulatta, with European, Indian and Black ancestors. She was 1.55 meters (5 feet and 1 inch) tall, weighting 79 kilograms (174 pounds). She had suffered for more than 20 years of Asthma, backaches, ischemic coronary disease, and chronic high-pressure glaucoma. Although the anti-glaucomatous eye drops, she was feeling daily aches on her eyes and on her back, medicated with caffeinated analgesics. Her blood glucose was above healthy limits. She was taking some 10 daily medicaments, besides the homeopathy. She daily drank coffee 300 milliliters (10 fluid ounces), some glasses of green tea and caffeinated cola. At her ophthalmological tonometry, we found intraocular pressures of 20 mmHg in both eyes, and on direct ophthalmoscopy she presented right and left Optic Nerves’ cups with 0.8/3/0.5 and 0.7/3/0.5 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which configures simultaneous glaucoma and Cerebrospinal Fluid Hypertension in both eyes.

We taught her to stop all caffeine: in medicaments, coffee, tea and sodas. We changed her eye drops. She disappeared from our office. After 5 months she came again to change her eyeglasses. She was almost entirely improved or cured from all those ailments, including no more asthma crisis, with exception of the restricted movements to bend down from her back. Her Optic disks show the same cups of before, with reductions of the lamina cribosa’s pores visibility and the borders edemas, which became difficult to measure (0.8/3/1/0.25? and 0.7/3/1/0.25?). She had reduced or stopped most of those old medicaments. Her eyes reduced their intraocular pressures to 16 and 18 mmHg right and left eyes. She was weighting only 74.5 kilograms (164 pounds), a reduction of 4.5 kilograms without any specific therapy, and both she and her husband were happy about the caffeine eschew. She only came back because she needed new eyeglasses, or we did not see her again. As a rule, the cured patient does not return to the physician.
The repeated rise of the intraocular pressure, besides causing migraines, also causes lesion of the Optic Nerve's fibers, it increases the Optic Nerve's cup and also causes the thinning of the lamina cribrosa by distension of its surface. All of this result in glaucoma. When this repeated rise of the intraocular pressure occurs in a less resistant eye because the patient is very young, or has weakness of the eye's sclera, which is caused so by genetic and so by the caffeine, this rise of the intraocular pressure also causes the elongation of the eye, causing myopia:

“The lamina cribrosa was significantly thicker in the normal group than in the glaucomatous group, in which it was significantly thicker than in the glaucomatous elongated-length group. Lamina cribrosa thickness decreased significantly with increasing axial length and presence of glaucoma. Lamina cribrosa thickness and peripapillary sclera thickness decreased significantly with axial length, in addition to a glaucoma-related thinning of the lamina cribrosa.” (Ren R, and others).

IX - D - Glaucoma evolution of simultaneous Ocular Hypertension and Cerebrospinal Fluid Hypertension: The patients who present both fluids hypertension at the same Optic Nerve's disk when they are young, after many years without treatment they present pathological evolution increasing the cup depth and diameter, or say, they present evolution towards the Glaucoma. The swollen Optic nerve's borders from the Cerebrospinal Fluid Hypertension progressively lessen, as the cup progressively increases. After more than 15 years of evolution without treatment, the end stage shall be the chronic open angle glaucoma.

This occurs because most borders edemas reabsorb without definitive lesions, or only with the “beta” retinal atrophy around the disk, but the glaucomatous disk’s cup is a definitive damage and ever progressive. In an eye which presents shallow anterior chamber, it becomes shallower each year, and the intraocular pressure has a tendency to increase with age. After the age of sixty in most patients, the end stage is the chronic (high-pressure) open-angle glaucoma.

We conclude that the lamina cribosa's defenses from being cupped by the intraocular pressure with the glaucomatous optic neuropathy, are:

1 – How higher is the cerebrospinal fluid pressure, also higher is its opposition to the intraocular pressure at the other side of the lamina cribosa.
2 - How smaller is the Optic disk surface, smaller also is the intraocular pressure in grams over it, and stronger is the Optic Nerve against being cupped by the glaucomatous optic neuropathy.
3 - How higher is the arterial pressure, so higher is the blood perfusion pressure at the lamina cribosa and retinal capillaries, and more resistant is the eye against the glaucomatous optic neuropathy.

With these above Optic nerve's defenses, a healthy person will never present the glaucoma. Meanwhile, when drinking caffeine, beer, wine, excessive water, or other etiology, the intraocular pressure raises too much, surpasses all the defenses and can cause the glaucoma.
X) – Etiologies of Glaucoma:

Contents
A - Etiologies or Risk Factors related with their glaucomas frequencies.

Table X-1: Etiologies of Glaucoma related with their respective glaucomatous damage (glaucomatous Optic neuropathy), from the 1,270 patients.

B – Hospitalization improves the Normal (Peak) Tension Glaucoma patients.

C – Drinks timing influence on the glaucoma.

D - The intraocular pressure that damages the Optic Nerve is different in each individual.

E – Some proceedings during Ocular surgeries can cause permanent chronic intraocular hypertension.

F – General Anesthesia can cause permanent Normal (Peak) Tension glaucomatous damage (glaucomatous Optic neuropathy).

G – Familial and Congenital glaucoma.

H – Open-angle chronic Glaucoma and higher intraocular pressure with caffeine.

I - Other etiologies to the Glaucoma.

X) - A – In our 1,270 patients we had the following Etiologies or Risk Factors related with their glaucomas frequencies (Table X-1):

<table>
<thead>
<tr>
<th>Etiologies of Glaucoma</th>
<th>1,270 Patients</th>
<th>Patients with Glaucoma Cup/Disk (C/D) ratio from 0.6 up to 1</th>
<th>Total Suspect + Incipient + Adv.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total 100%</td>
<td>Lamina Cribosa pores visibility</td>
<td>Suspect C/D=0.6</td>
</tr>
<tr>
<td>1. Familial Glaucoma: genetic, caffeine at pregnancy, caffeine daily.</td>
<td>26 38.3</td>
<td>65.4%</td>
<td>26.9%</td>
</tr>
<tr>
<td>2. Intraocular pressure in any eye &gt; 16mmHg</td>
<td>270 49.1</td>
<td>43.3%</td>
<td>11.1%</td>
</tr>
<tr>
<td>3. Shallow Anterior Chamber</td>
<td>166 55.7</td>
<td>43.4%</td>
<td>12.7%</td>
</tr>
<tr>
<td>4. Stress</td>
<td>6 41.9</td>
<td>33.3%</td>
<td>16.7%</td>
</tr>
<tr>
<td>5. Wine</td>
<td>71 47.1</td>
<td>35.2%</td>
<td>14.1%</td>
</tr>
<tr>
<td>6. Renal stones water &gt;2,000 ml</td>
<td>13 44.4</td>
<td>38.5%</td>
<td>15.4%</td>
</tr>
<tr>
<td>7. Drinking water &gt;1,500 ml daily</td>
<td>470 36.7</td>
<td>39.1%</td>
<td>10.6%</td>
</tr>
<tr>
<td>8. Coffee, mate or tea</td>
<td>273 41.9</td>
<td>38.8%</td>
<td>11.7%</td>
</tr>
<tr>
<td>9. Medicaments</td>
<td>102 47.0</td>
<td>33.3%</td>
<td>6.9%</td>
</tr>
<tr>
<td>10. Beer</td>
<td>267 42.2</td>
<td>34.5%</td>
<td>9.0%</td>
</tr>
<tr>
<td>11. All Migraines</td>
<td>931 38.7</td>
<td>33.6%</td>
<td>9.1%</td>
</tr>
<tr>
<td>12. Abdominal sicknesses</td>
<td>41 46.8</td>
<td>31.7%</td>
<td>4.9%</td>
</tr>
<tr>
<td>13. Matinal Migraines</td>
<td>295 40.0</td>
<td>34.2%</td>
<td>10.2%</td>
</tr>
<tr>
<td>14. Myopia</td>
<td>286 33.1</td>
<td>28%</td>
<td>10.5%</td>
</tr>
</tbody>
</table>
15. Caffeinated soft drinks  

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>32.7%</td>
<td>9.2%</td>
<td>7.0%</td>
<td>4.0%</td>
<td>20.2%</td>
</tr>
<tr>
<td>16. Hyperopia</td>
<td>234</td>
<td>52.1</td>
<td>27.4%</td>
<td>9.8%</td>
<td>6.0%</td>
<td>2.6%</td>
</tr>
<tr>
<td>17. Menstrual migraines</td>
<td>95</td>
<td>33.4</td>
<td>36.8%</td>
<td>13.7%</td>
<td>3.2%</td>
<td>1.1%</td>
</tr>
<tr>
<td>18. Astigmatism</td>
<td>286</td>
<td>38.7</td>
<td>24.8%</td>
<td>5.2%</td>
<td>9.4%</td>
<td>3.1%</td>
</tr>
<tr>
<td>19. Excessive Computer or TV</td>
<td>57</td>
<td>29.3</td>
<td>42.1%</td>
<td>7.0%</td>
<td>5.3%</td>
<td>1.8%</td>
</tr>
<tr>
<td>20. Sleeping with one arm over the eyes</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>No Migraines</td>
<td>339</td>
<td>38.9</td>
<td>21.8%</td>
<td>5.9%</td>
<td>2.9%</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

| 21. Ocular Surgeries | - | - | - | - | - | - | - |

**Table X-1:** Etiologies of Glaucoma related with their respective glaucomatous damage (glaucomatous Optic neuropathy), from the 1,270 patients. We marked **boldface** the biggest numbers.

Each patient can have one or more Etiologies or Risk Factors simultaneously.

There is relation between Myopia and Glaucoma: “Mean intraocular pressure was approximately 0.5 mmHg higher in myopic eyes compared to nonmyopic eyes. This study has confirmed a strong relationship between myopia and glaucoma. Myopic subjects had a twofold to threefold increased risk of glaucoma compared with that of nonmyopic subjects. The risk was independent of other glaucoma risk factors and intraocular pressure.” (Mitchell P, and others).

When the patient came just in time. We had a 34-year-old man, 1.65 meters (5 feet and 5 inches) tall, weighting 55 kilograms (121 pounds), white, with almost all ancestors from Turkey and only one great-great-grandfather Black He was complaining about a right temporal daily migraine at afternoons, for the last three years. From 15 days until now, he is complaining of aches, redness and small edema at his left eye. He was a drinker of coffee of only two ounces (60 milliliters) twice a day, Guaraná only at weekends, and 3,000 milliliters (near one gallon) of water daily. For headaches, he took two tablets of caffeinated analgesic daily. On the ophthalmological exam, we found shallow anterior chambers, intraocular pressures of 17 and 16 mmHg right and left eyes (which is in the physiologic limit), and all the rest was normal. His Optic Nerve’s disks show 0.5/3/1/0.25 and 0.6/3/3/0.5 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which means that both eyes presented damage consequent to the rise of intraocular pressure, together with the rise of the Cerebrospinal fluid pressure. The left eye we classified as suspect of glaucoma.

After stopping the coffee, the guaraná and shortening the daily water, all aches vanished without medicament. Probably he will not evolve to the advanced glaucoma.

Typically, we see that he suffered from both Ocular and Cerebrospinal Fluid Hypertension on the same time, but not on the same daily hours. Typically also, is that the Cerebrospinal Fluid Hypertension did not cause definitive damage on his Optic Nerves, it caused only edemas, but the Ocular Hypertension caused the progressive and cumulative disk damage that can evolve to the glaucoma after many years.

We conclude that all the 20 above Etiologies or Risk Factors can cause the Normal (Peak) Tension Glaucoma, besides the migraines, signs and symptoms they cause. The etiologies to the Migraines and to the Normal (Peak) Tension Glaucoma are the same. The distinctions between the etiologies’ incidences are only statistical.
When occasionally there is a peak of high intraocular pressure caused by one or more of these etiologies acting together, the Optic Nerve damages, but no physician measures this high intraocular pressure at that moment, and he denominates the patient’s aches as migraines. After many years, when examining the patient on the medical office, the ophthalmologist finds the glaucoma and the intraocular pressure lowered to its normal levels, and then he denominates this as a Normal Tension Glaucoma. It is indeed a Peak Tension Glaucoma.

We denominated all the migraines, variants, signs, symptoms and glaucoma consequent to the occasional ocular hypertension, as the Ocular Hypertension Syndrome.

**X) - B – Hospitalization improves the Normal (Peak) Tension Glaucoma patients:** The Etiologies or Risk Factors 4, 5, 6, 7, 8, 9, 10, 15, 19, 20, only happen because the patient drinks or does something in his environment, and these are the main etiologies to his migraines and Normal (Peak) Tension Glaucoma. When hospitalized, these patients are in an environment without their pleasant drinks. Immediately their intraocular pressures have no more peaks, their glaucoma stop their evolutions and their migraines reduce. The normal tension glaucoma patients, while hospitalized, become better without any medicament, and their intraocular pressures measured in this environment are not their daily truth.

“Hager (1958) comments on the tendency for the ocular tension of glaucoma patients to fall when they are admitted to hospital even when no treatment is being given.” (Leighton D A).

“Glaucoma patients showed a significant decrease in intraocular pressure during hospitalization. Although this decrease was more pronounced among the treated patients, it was also present in nontreated patients. Consequently, other factors than improved compliance during hospitalization must play a role in this phenomenon.” (Haufschild T, Orgul S and Flammer J).

**X) - C – Drinks timing influence on the glaucoma:** Between the Normal (Peak) Tension Glaucoma patients caused by the excessive ingestion of water or other liquids, we observed the bigger glaucomatous disk’s cups among those who daily drank them after dinner, before the sleeping hour. The patient that drinks excessively at morning and afternoon, but not after dinner, presented smaller Optic Nerve’s damage. The water drank only at morning has lesser glaucomatous effect than the water drank after dinner. We observed this liquids timing, but we could not measure it.

This timing influence is caused by the second peak of intraocular pressures rise. The ophthalmologists know well the first rise of intraocular pressure which occur 15 minutes after drinking excessive water (1,000 milliliters). After these drinks during the day, on the following night it occurs a second peak of rise of the intraocular pressure, and this one is ignored by the physicians. This second sleeping pressure is higher than the first peak, and it causes much more glaucomatous optic neuropathy. This second sleeping peak of intraocular pressure is the main etiology to the “Normal” or “Low” pressure glaucoma and to the next wakening migraines and other symptoms. It is caused by the sum of:

- a - The absorption of the digestive fluids, drinks and meals when sleeping, because there was no time to their absorption before sleep.
- b - The spread to the entire body on horizontal position, of the water retained in the inferior part of the body during the upright position.
- c - The hydrostatic increase of the cranial venous pressure on the horizontal position.
- d - The closed upper eyelid compressing the aqueous veins on the eye.
- e - The excessive water drank few hours before sleeping, without time enough to be excreted.
- f - The caffeine and beer toxic effects increasing the ocular blood capillaries exudation.

The intraocular pressure increase at night together with the smaller arterial pressure, turns smaller the blood perfusion pressure in the eye and causes the glaucomatous ischemic lesion when the patient is sleeping: “24 healthy individuals and 29 primary open-angle glaucoma patients underwent intraocular pressure and blood pressure measurements every 2 h, starting at 08:00 h until 06:00 h of the next morning. In primary open-angle glaucoma patients, the mean diastolic blood pressure... was significantly lower at 04:00 h... and the mean diastolic perfusion pressure was significantly lower from 24:00 h to 06:00 h.” (Costa V P, and others).
We conclude that the sum of excessive liquid drinks and the intraocular pressure rise when the patient sleeps causes more Glaucoma than the excessive liquid drinks alone.

**Advanced Normal-Tension Glaucoma caused by excessive water drank:** We had a 22 year-old man, 1.86 meter tall (6 feet and 1 inch), healthy, weighting 75 kilograms (165 pounds), Mulatto. He came to change his 3 year-old eyeglasses, which had only astigmatism -2.50 dioptre on both eyes. He is a musician, percussionist. He does not have any complaint. Besides changing his eyeglasses, we examined his Optic Nerves with direct ophthalmoscopy and found disk with 0.9/4/1/0 and 0.8/4/1/0 right and left eyes (cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which are advanced glaucoma. His intraocular pressures show 18 and 14 mmHg, which is a little high at the right eye. His eyes present deep (physiologic) anterior chambers. He does not drink any caffeine, alcohol or medicament. He is used to drink water and domestic juices daily, about 14 times with his mug of 500 milliliters (16 fluid ounces), since many years ago. This sum up to 7,000 milliliters (2 gallons) daily, without any special defined motive. As he never felt anything, these advanced glaucomatous damage only could have occurred when he was sleeping. Luckily he came on time, or the first advice of this no felt glaucoma would be his “sudden” right eye blindness on some wakening.

**X - D - The intraocular pressure that damages the Optic Nerve is different in each individual, because:**

1 - This depends from the Ocular and its branches arterial pressure, that nourishes the eye, which has great variations: “Marked circadian mean ocular perfusion pressure fluctuation was associated with nocturnal blood pressure reduction. Circadian mean ocular perfusion pressure fluctuation may be a risk factor for the development of normal tension glaucoma.”(Choi J, and others).

2 - This depends from the endurance of the Optic Nerve's Lamina Cribosa, which is weaker in children, in the patients intoxicated by caffeine, in some Blacks, Indians, Mulattoes, Dawn's syndrome patients, and others.

   “An unexpected finding of the Ocular Hypertension Treatment Study was that central corneal thickness proved to be a potent risk factor for the development of primary open angle glaucoma – patients with central corneal thickness only 40 micra thinner than the average had a 71% increased risk of primary open angle glaucoma development.” (Kass M A and others).

   The weakness of the Lamina Criobosa also explains the higher prevalence of Normal (Peak) Tension Glaucoma between “adults with Down’s syndrome, who presented 11.5%, significantly higher than in the age-matched control group, 1.1%.” (Yokoyama T et al).

   The Optic nerve’s lamina cribosa is thinner (and probably weaker) in elongated eyes: “The lamina cribosa was significantly thicker in the normal group than in the glaucomatous group, in which it was significantly thicker than in the glaucomatous elongated-length group. Lamina cribosa thickness decreased significantly with increasing axial length and presence of glaucoma.” (Ren R, and others).

3 - This depends from the values and duration of intraocular pressure rises, subjected to peaks on other hours far from the physician’s office, usually during sleeping time.

4 - This depends from the Cerebrospinal fluid pressure at the other side of the Optic Nerve’s Lamina Cribosa, at that moment when the intraocular pressure rises. When the cerebrospinal fluid pressure is much lower, the trans-lamina cribosa pressure difference between it and the physiologic intraocular pressure at the other side also can cause “Normal-tension” glaucoma:
   “Cerebrospinal fluid pressure is significantly lower in primary open-angle glaucoma patients compared with that in non-glaucoma controls. These data support the notion that cerebrospinal fluid pressure may play an important contributory role in the pathogenesis of primary open-angle glaucoma.” (Berdahl J P, and others).

   The cerebrospinal fluid hypotension can be made by the surgery of ventriculoperitoneal shunt and cause normal-tension glaucoma: “Relatively low cerebrospinal fluid pressure is a contributor to worsening normal-tension glaucoma, probably by increasing translaminar pressure gradient of the optic nerve.” (Chen B H and others).
We had patients with glaucomatous Optic Nerve’s cups in one eye, caused by the intraocular pressure rise in that eye above the Cerebrospinal fluid pressure, and Optic Nerve’s borders edema in the other eye with low intraocular pressure, caused by the rise of the Cerebrospinal Fluid pressure above this intraocular pressure. Obviously, the Cerebrospinal fluid pressure behind both eyes is the same in both Optic Nerves. The difference between both eyes was only in their intraocular pressures.

We also had patients with the coexistence in the same eye of glaucomatous cups with Optic Nerve’s borders edema, which demonstrates the rise of both Cerebrospinal fluid pressure and intraocular pressure at different moments.

We conclude that the Ocular and the Cerebrospinal fluids’ pressures can rise at the same time or at different times.

We conclude that the low-tension glaucoma depends from the intraocular pressure peaks, the cerebrospinal fluid pressure, and the endurance of the optic nerve's lamina cribosa.

X – E – Some proceedings during Ocular surgeries can cause permanent chronic intraocular hypertension, as has been experimentally demonstrated in rat eyes, by Lu H-B and others. This chronic intraocular hypertension is an important etiology to the High Tension Glaucoma (Chronic Open Angle Glaucoma). The most common surgical etiology is the cauterization of the episcleral veins, which is very common to stop bleeding during ocular surgeries.

The ocular compression previous to the cataract surgery and during the refractive surgeries are important etiologies to the glaucomatous Optic nerve lesion at that moment. After the surgical lesion, in the office examination this glaucoma will be classified as a “Normal (Peak) tension glaucoma”.

X – F – General Anesthesia can cause permanent Normal (Peak) Tension Glaucomatous damage (glaucomatous Optic neuropathy): Studying changes in intraocular pressure in children while under general anesthesia, Watts P and others concluded that “a small but significantly higher Intraocular pressure was found after Laryngeal Mask Airway insertion than before.” They also found “a decrease in blood pressure was significantly associated with an increase in intraocular pressure”. This decreased blood pressure associated with increased intraocular pressure can cause ischemia and Optic Nerve damage. When detected some day in the future, this lesion will be denominated as Normal (Peak) Tension Glaucoma.

X - G – Familial and Congenital glaucoma. The patient with glaucoma and with some relative also with glaucoma, so classified as familial glaucoma, has 3 possible etiologies for his glaucoma:

1 - Some genetically inherited sensibility of his eyes to the caffeine intoxication.

This caffeine sensibility inheritance can be manifested by Migraines on the relatives: “A past history of migraine was found more often with familial Open angle glaucoma (OR: 1.67). This effect was primarily driven by patients who had a first-degree relative also affected by Open angle glaucoma.” (Hewitt A W, and others).

“In the Pakistani patient cohort, blood group B is associated with all types of glaucoma and the Rh-allele is associated only with Primary open-angle glaucoma.” (Khan M I, and others).

2 - Some familial habits of drinking caffeine daily, learned from his parents during childhood.

At “Boston, MA, USA…A total of 79,120 women from 1980 to 2004 and 42,052 men from 1986 to 2004, who were 40+ years of age… for consumption of five or more cups of caffeinated coffee daily, the RR was 1.61. Greater caffeine intake was more adversely associated with primary open-angle glaucoma among those reporting a family history of glaucoma, particularly in relation to primary open-angle glaucoma with elevated intraocular pressure.” (Kang J H, and others).

3 – The patient was intoxicated by the caffeine drank by his mother, while in her uterus. The fetuses have no defense against the caffeine.

We have few patients with congenital glaucoma at our ophthalmological clinic, not enough to make statistics about them.
Normal tension glaucoma, familial inheritance and excessive water and tea: We had a 44-year-old miss, mulatta, Geography teacher, no husband and no child, 1.68 meters (5 feet and 6 inches) tall, 58 Kilograms (127 pounds). She had one grandmother and two uncles blind consequent to glaucoma. She is vegetarian, uses homeopathy, practices Yoga and used to drink 4,500 milliliter (more than a gallon) of water and tea daily, in order to prevent constipation. On the examination we found the necessity of eye-glasses for near vision, shallows anterior chambers, intraocular pressures of 12 and 12 mmHg right and left eyes at the office, and on ophthalmoscopy we found increased cups in both Optic Nerves’ disks, with 0,6/3/1/0 (cup-disk diameter/ cup dioptries depth/ visibility of lamina cribosa’s pores/ blurring of borders). This configures a Suspicion of Normal (Peak) Tension Glaucoma caused by the excessive drinks of water and tea, probably increasing her intraocular pressures when sleeping, because she did not feel any sign or symptom at all.

Open-angle chronic Glaucoma and higher intraocular pressure with caffeine: “The Blue Mountains Eye Study examined 3654 participants aged 49+ years in an area west of Sydney, Australia. In participants with open-angle glaucoma, this study identified a positive cross-sectional association between coffee consumption/higher caffeine intakes and elevated intraocular pressure.” (Chandrasekaran S, and others).

Caffeine drinks rise the intraocular pressure on the following night, which is felt as headaches and migraines on awakening. When the patient has some propensity or sensibility, after many years the caffeine damages the Schlemm canal and the trabecular meshwork, causing the Chronic Primary Open-Angle Glaucoma.

Other etiologies to the Glaucoma:

There are other etiologies that we did not make statistics, as the Valsalva maneuver, the cardiac patent Foramen Ovale, smoking, and others, and some of them we analyze at the following chapters.
XI – Etiologies or Risk Factors for the three Fluids Hypertension Syndromes and their Migraines

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XI- 37) – Tight neckties: Analyzed at chapter XII.
XI- 38) – Valsalva maneuver: Analyzed at chapter XII.
XI- 39) – Weight lifting: Analyzed at chapter XII.
XI- 40) - Queckenstedt test. Analyzed at chapter XII.
XI- 41) – Sleeping with a small pillow.
XI- 42) - Other Etiologies of the Fluids Hypertension Syndromes.
XI- 43) – Statistics about Etiologies of the Cerebrospinal Fluid Hypertension Syndrome (Benign Intracranial Hypertension’s Migraines).
Table XI-5: Etiologies of the Benign Intracranial Hypertension with Migraines in our patients.
Table XI-6: Migraines, Variants, Signs and Symptoms presented by patients with minimal (0.25 diop- tre) and evident (0.5 dioptre or more) Optic Nerve’s borders edema from Cerebrospinal Fluid Hypertension Syndrome, from all etiologies, and all except caffeine.

XI- 44) – Obesity is a fake etiology for the Cerebrospinal Fluid Hypertension Syndrome.

XI- 45) – Comparison between six main etiologies and respective migraines, signs, symptoms and sicknesses.

Table XI-7, divided in pieces: Comparison between six main etiologies purified, and respective migraines, symptoms, intraocular signs and sicknesses they cause.

XI – 46) - Migraines’ Triggers (precipitating factors).

XI – 47) - Migraines triggered by the withdrawal of the etiologies.

XI – 48) – Conclusions of this chapter.

XI- Introduction- Distinction between Risk Factor and Etiology: When the patient presents only one etiology or risk factor alone, usually there is no sign or symptom and the patient is healthy, and we denominate it as a Risk Factor. When the patient presents one risk factor with high intensity, or two or more risk factors simultaneously, the fluids’ pressure raises and the patient feels headaches, migraines or other signs, symptoms, and eventually some sickness; so, the previous Risk Factors became Etiologies.

There are etiologies that we studied but did not make statistics, as chocolate and others, at the end of this table.

The main etiologies related with our patients’ migraines, signs and symptoms are in the following Ta- ble XI-1:

<table>
<thead>
<tr>
<th>Etiologies of Migraines</th>
<th>Patients</th>
<th>Average A ges Years</th>
<th>Average migraines per patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Patients with Migraines and Variants</td>
<td>931</td>
<td>100%</td>
<td>38.7</td>
</tr>
<tr>
<td>1. Drinking water &gt;1.500 milliliter daily</td>
<td>470</td>
<td>50.5%</td>
<td>36.7</td>
</tr>
<tr>
<td>2. Caffeine all</td>
<td>466</td>
<td>50.1%</td>
<td>34.9</td>
</tr>
<tr>
<td>3. Caffeinated soft drinks</td>
<td>327</td>
<td>35.1%</td>
<td>30.4</td>
</tr>
<tr>
<td>4. Worsened at morning</td>
<td>295</td>
<td>31.7%</td>
<td>40.0</td>
</tr>
<tr>
<td>5. Astigmatism</td>
<td>286</td>
<td>30.7%</td>
<td>38.7</td>
</tr>
<tr>
<td>6. Myopia</td>
<td>286</td>
<td>30.7%</td>
<td>33.1</td>
</tr>
<tr>
<td>7. Intraocular pressure in any eye &gt;16mmHg</td>
<td>270</td>
<td>29%</td>
<td>49.1</td>
</tr>
<tr>
<td>8. Beer</td>
<td>267</td>
<td>28.7%</td>
<td>42.2</td>
</tr>
<tr>
<td>9. hyperopia</td>
<td>234</td>
<td>25.1%</td>
<td>52.1</td>
</tr>
<tr>
<td>10. Coffee, mate or tea</td>
<td>273</td>
<td>24.3%</td>
<td>41.9</td>
</tr>
<tr>
<td>11. Shallow Anterior Chamber</td>
<td>166</td>
<td>17.8%</td>
<td>55.7</td>
</tr>
<tr>
<td>12. Menses (from 772 women)</td>
<td>95</td>
<td>12.3%</td>
<td>33.4</td>
</tr>
<tr>
<td>13. Medicaments</td>
<td>102</td>
<td>11%</td>
<td>47.0</td>
</tr>
<tr>
<td>14. Wine</td>
<td>71</td>
<td>7.6%</td>
<td>47.1</td>
</tr>
<tr>
<td>15. Computer or excessive TV</td>
<td>57</td>
<td>6.1%</td>
<td>29.3</td>
</tr>
<tr>
<td>16. Visceral disturbances</td>
<td>41</td>
<td>4.4%</td>
<td>46.8</td>
</tr>
<tr>
<td>17. Familial Glaucoma</td>
<td>26</td>
<td>2.8%</td>
<td>38.3</td>
</tr>
<tr>
<td>18. Renal stones and excessive water</td>
<td>13</td>
<td>1.4%</td>
<td>44.4</td>
</tr>
<tr>
<td>19. Emotional Stress</td>
<td>6</td>
<td>0.6%</td>
<td>41.9</td>
</tr>
<tr>
<td>20. After cranial damage (Dural sinus thrombosis?)</td>
<td>2</td>
<td>0.2%</td>
<td>58.5</td>
</tr>
</tbody>
</table>

Table XI-1: Main etiologies of all Migraines from the 931 Migraine patients.
We marked **boldface** the most important numbers. Each patient could present or no one, or one, or more etiologies simultaneously. We are sorry that we did not include the chocolate in our questionnaire and in this statistic. We believed that the Theobromine was a harmless drug, only useful as a medicament. This was a big our mistake. Cocoa, which is used to manufacture the chocolate, can have 26000 mg of theobromine per kg of cocoa. (Risner C H), besides some caffeine, and its toxicity is corroborated.

<table>
<thead>
<tr>
<th>Table XI-2: Other Migraine Etiologies which we did not make statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. Sleeping with One Arm over the Eyes</td>
</tr>
<tr>
<td>22. Irregular sleep</td>
</tr>
<tr>
<td>23. Lumbar puncture (spinal tap)</td>
</tr>
<tr>
<td>24. Ocular compression on surgeries and exams</td>
</tr>
<tr>
<td>25. Medicaments and over-hydration to hospitalized patients</td>
</tr>
<tr>
<td>26. Dehydration: hemodialysis headache</td>
</tr>
<tr>
<td>27. Racial predispositions</td>
</tr>
<tr>
<td>28. Fasting</td>
</tr>
<tr>
<td>29. Cardiac patent foramen ovale and Pulmonary arterio-venous malformation.</td>
</tr>
<tr>
<td>30. Obstructive sleep apnea syndrome</td>
</tr>
<tr>
<td>31. Aging</td>
</tr>
<tr>
<td>32. Very low arterial pressure when sleeping or in surgeries</td>
</tr>
<tr>
<td>33. Vasoconstrictors and vasodilators</td>
</tr>
<tr>
<td>34. Incomplete posterior Circle of Willis</td>
</tr>
<tr>
<td>35. High resistance wind instrument playing: Analyzed at chapter XII</td>
</tr>
<tr>
<td>36. Sirsasana (Shirshásana) (headstand) yoga posture: Analyzed at chapter XII</td>
</tr>
<tr>
<td>37. Tight neckties: Analyzed at chapter XII</td>
</tr>
<tr>
<td>38. Valsalva maneuver: Analyzed at chapter XII</td>
</tr>
<tr>
<td>39. Weight lifting with Valsalva maneuver: Analyzed at chapter XII</td>
</tr>
<tr>
<td>40. Queckenstedt test: Analyzed at chapter XII</td>
</tr>
<tr>
<td>41. Sleeping with a small pillow?</td>
</tr>
<tr>
<td>42. Other Etiologies of the Fluids Hypertension Syndromes.</td>
</tr>
</tbody>
</table>

**Table XI-2**: Migraine etiologies that we did not make statistics.

**XI-1) – Intolerance to the Excessive liquids Drinks:**
It was the main etiology of all these illnesses, affecting 470 out of the 931 Migraines’ patients. Alone or together with other etiologies, it caused an average of 3.2 migraines, signs or symptoms per patient (Table XI-1). To these patients, drinking more than 200 milliliter (7 fluid ounces) of liquid at one time, or more than 1,200 milliliter (40 fluid ounces) daily, was excessive, rose their intraocular pressure to surpass their physiological limit (usually 16 mmHg) or the Cerebrospinal fluid pressure, and caused Migraines. The excessive drinks usually is of water, but also can be of juices, soft drinks, milk, tea, etc.

“A (70 Kg) healthy person on a mixed diet in a temperate climate receives 1,000 milliliter (of water) with the food, and drinks 1,200 milliliter daily.”(Poul-Erik Paulev).
We found that the liquids volumes that cause Migraines and the other interchangeable signs and symptoms (Migraine variants) vary to each patient, and can be as low as 1,000 milliliter (35 fluid ounces) or as high as 12,000 milliliter (4 gallons) each day, depending on the personal susceptibilities, which can be congenital or acquired.

The intraocular pressure raising effect caused by the excessive liquids drink is ephemeral and it is hardly detectable by the ocular tonometry on the physician’s office. The excessive water drink causes two pressure peaks in the persons: the first peak occurs in the first hour and is used by the ophthalmologists as a test to detect the patient’s propensity to glaucoma; a rebound 2nd peak occurs when sleeping that night, which is the main etiology to the “low-pressure” or “normal-pressure” glaucoma in our patients, and usually the ophthalmologists ignore it.

Nobody knows anything about the Cerebrospinal fluid pressure rising effect of the excessive water drinks, but this is the main etiology of all migraines and other signs and symptoms.

The patients that daily drink too much water, inadvertently are performing the Hydrous Overload Test (Water drinking test) for glaucoma to themselves, many times a day, years along. Some patients drank so much because they followed a diet, to “slim down” (“amazing hydration diet”), “better digestion”, “better health”, “washes the stomach”, “clean the liver’s fat”, “skin beauty,” “reposition of body’s liquid after physical activities,” “prevention of Arsenic’s poisoning,” “following somebody’s counseling,” or “oriented by radio or TV health programs.” They also drank because they felt “dry mouth” (teachers and telemarketing operators), “anxiety”, “excessive thirst”, “delight to water drinks”, as an “old habit” or used to drink “with a pleasant big mug”.

We had many migraine patients who drank 2,000 (67 fluid ounces) to 6,000 milliliter. (1.5 gallon) of water daily, years along, prescribed by urologist physicians, in order to prevent urinary stones or infections. “As of 2002, when I thoroughly reviewed the literature, there was still no conclusive scientific evidence that drinking large amounts of water helps prevent even kidney stones, urinary tract infections, or bladder cancer. And even if fluids might help, it's not clear that you need eight glasses a day.” (Valtin H).

- Drinking plenty of water daily, migraines and glaucoma: We had a patient with 67-year-old, woman, 1.47 meters tall (4 feet and 10 inches), 47 kilograms of weight (104 pounds), needle-woman, mulatta, complaining of right temporal migraines and awakening eye’s aches for the last 10 days. She presented intraocular pressures of 18 and 18 mmHg in both eyes, which is mildly high. Her anterior chambers were shallow, which is common at her age. Her Optic Nerve’s disks show 0.8/1/0/0 and 0.9/2/0/0 right and left eyes, which is not glaucoma yet, but it is no more physiologic. She was drinking 2,000 milliliter (half gallon) of water daily, prescribed 6 months before by her medical doctor Neurologist, in order “not to forget to drink water”. We talked by phone with the physician, and he confirmed that she had no sickness to justify the excessive water drank.

Her physician’s prescription only says,

| To the patient…
| **WATER**
| 1 glass of 200 milliliter (7 fluid ounces) per hour
| (12 to 15 glasses per day)
| Signature: Dr. … |

We prescribed her to drink water only to satisfy her thirst needs, and only half cup each time. After 1 month without that excessive water, she became better from all her aches, without any medicament. On this occasion, her eyes presented intraocular pressures of 16 and 16 mmHg, which are physiologic (healthy).
We had patients who daily drank excessive liquids without signs or symptoms years along, and begin to feel Migraines when occurred one more etiology simultaneously. We had patients with Migraines and Normal (Peak) Tension Glaucoma who worked at places with difficult access to potable water (scaffold’s workers, p. ex.), that each time drank more than 1,000 milliliter of water at one time, in order “to accumulate it for the following many hours without water”. This was repeated many times each working day.

We have done ophthalmological medicine since the year 1,970 in an endemic of people’s excessive hydration, from medical doctors’ origin. The nowadays fashion of Brazilians health authorities, physicians, nutritionists and phone-audiologists is to prescribe drinking every day at least of 2,000 to 3,000 milliliter (67 to 100 fluid ounces) of water, without any thirst, to all healthy and sedentary adolescents, adults and aged, for treatment or prevention of many assorted illnesses. This is done daily for decades, because “it is generally known that water is good for health,” for “clean up the body’s toxins”, to prevent female urinary infections, to “prevent dehydration” or “to moist the vocal chords”.

“As far back as the 1940s, the Food and Nutrition Board of the Institute of Medicine made recommendations on dietary intakes of nutrients, and one of them is water. The board wrote that a rough rule of thumb would be one milliliter of water per calorie eaten. That would mean about 2,000 milliliters, or two liters, of water a day (eight 8-ounce glasses). But then in the very next sentence, the board said, "and much of this can be gained from the solid food that we eat." It always surprises people that white bread is more than 30 percent water. And I think people forgot about the second sentence, so it became the rule to drink two liters of water a day.” (Valtin H).

As this rumor has spread on the people, the daily 8 glasses of 8 fluid ounces each is individually expanded to 4 or more liters of water a day. “Whether 2 liters is good to my health, 4 is much better!” And people drink a lot of water daily. I had patients who drank 12 liters of water daily.

The excessive liquid drinks have been the strongest inducer of all Fluids Hypertension Syndromes, and around two hundred sicknesses, signs, symptoms, Migraines and variants, listed at the Summary.

**- Normal Tension Glaucoma and excessive milk:** We had a white 70 Kilograms (154 pounds) of healthy and strong miss, 26-year-old, 1.68 meters (5 feet and 6 inches) tall, with chronic headaches. We found no eyeglasses needs, intraocular pressures of 12 and 12 mmHg in both eyes, deep anterior chambers (physiologic). On direct ophthalmoscopy we found Optic disk’s cups with 0.8/4/2/0 (Cup-disk diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in both eyes, which characterizes advanced Normal (Peak) Tension Glaucoma. She did not drink beer, wine, coffee, water, tea, soft drinks or medicaments. She was very healthy. After carefully questioning her, she told us that she only used to drink eight liters (more than 2 gallons) of milk each day, because:

“- Milk is good to health, isn’t it? “

The liquids tolerance is also roughly proportional to the body weight. To a child, slim adolescent and old-aged person with less than 50 Kilograms (110 pounds) of weight, the liquids volume that causes the Fluids Hypertension Syndromes is less than half of the necessary to the heavier people.

When the liquid is drank before sleeping, its intraocular hypertensive effect ads the raising of intraocular pressure that physiologically occurs during sleeping time, enabling the damage of the Optic Nerve without Migraine, because the patient feels nothing when he is sleeping. The patient can wake with headaches or other symptom, which vanishes in few hours.

**- Normal Tension Glaucoma and excessive water:** We had a white, healthy and strong 28-year-old physical educator teacher, without symptoms but with Normal (Peak) Tension Glaucoma in both eyes. He used to drink, besides the water he drank when feel thirsty during the day, more 2,000 milliliter (half gallon) of water just before sleeping every night, in order to do “body’s liquids restitution”.
- The water drinks record between our patients: We had a white 46-year-old man, weighting 120 Kilograms (264 pounds), who told us to drink 12,000 milliliter (three gallons) of water, 2,000 milliliter (half gallon) of tea and 500 milliliter (one pint) of coffee daily, and on the examination only presented small (0.25 dioptre) Optic Nerve’s borders edema. He complained about continuous obstructive rhinitis for the last twenty years. He also presented recurrent renal stones, which probably were consequent to the excessive caffeine drank all those years. His 12,000 milliliter of water drank daily did not prevent the periodic appear of his ever-new renal stones. He is a rare example of a person who did not become sick with this excessive water drank daily.

We collected 470 patients with sedentary habits and no Diabetes, which drank 1,500 milliliter to 10,500 milliliter (less than half gallon to more than 2.5 gallons), of liquids every day, with an average of 3.3 liters (nearly one gallon) each day.

These 470 patients with daily excessive water drank, complained about:
- 200 patients (42.6%) with wide frontal migraines;
- 167 patients (35.5%) worsened at morning;
- 141 patients (30%) with tearfulness or Rhinitis with coryza (rhinorrhea);
- 131 patients (27.9%) with itching eyes or blepharitis;
- 117 patients (24.9%) with temporal migraines or at the head-top (vertex);
- 110 patients (23.4%) with ocular migraines;
- 58 women (18.5% out of 314 women) worsened during the menstrual cycle;
- 79 patients (16.8%) with eye’s redness;
- 74 patients (15.7%) with occipital migraines;
- 67 patients (14.3%) with photophobia;
- 58 patients (12.3%) with nausea and retching or vomits;
- 52 patients (11.1%) with eyelids edemas;
- 43 patients (9.1%) with dizziness - vertigo;
- 41 patients (8.7%) with Chronic cough without any pulmonary lesion;
- 37 patients (7.9%) with chronic sneezing;
And other less frequents signs and symptoms.
Only 17 patients (3.6%) out of these 470 patients, who referred excessive liquid drinks, were without any Migraine or variation.

These 470 patients, besides the excessive water, also drank:
- 294 patients ((62.6%) drank caffeine, as coffee, mate, tea or soft drinks.
- 191 patients (40.6%) drank caffeinated soft drinks;
- 162 patients (34.5%) drank coffee, mate or tea;
- 100 patients (21.3%) drank beer;
- 58 patients (12.3%) took medicaments that raise the fluids pressures;
- 37 patients (7.9%) drank wine;
- 24 patients (5.1%) presented visceral disturbances;
In addition, other lesser etiologies.

These 470 patients with daily excessive water drank, presented On the examination:
- 223 patients (47.4%) with minimal Optic Nerve's borders edema;
- 126 patients (26.8%) with evident Optic Nerves' borders edema;
- 50 patients (10.6%) with suspicion of glaucoma;
- 44 patients (9.4%) with incipient glaucoma;
- 25 patients (5.3%) with advanced glaucoma;
- Only 44 patients (9.4%) did not present Glaucoma or Optic Nerves' borders edema.
- Normal Tension Glaucoma and Migraines caused by 25 years of excessive water: We had a small white woman medical doctor, 40-year-old, 1.57 meters (5 feet and 2 inches) tall, weighting 49 kilograms, one grown-up child, with myopia, presbyopia. After questioned, she told us that she felt bi-temporal Migraines, only related with the menses. On her eyes’ examination we found intraocular pressures of 12 and 14 mmHg right and left eyes, both pupils with Miosis, shallow anterior chambers, and Optic Nerves’ cups of 0.7/3/2/0 and 0.6/3/2/0 right and left eyes (cup diameter/ cup depth/ lamina cribrosas’ pores visibility/ borders edema). This characterizes incipient and suspicion of Normal (Peak) Tension Glaucomas. She told that since she was teenage, she had the habit of daily drinking 15 glasses of water, with around 500 milliliter (one pint) each one, totaling 7,500 milliliter (two gallons) daily, without any special motive. Her Glaucomas were worsening caused by the shallow anterior chambers, excessive water drinks and the menses hormones. Her Migraines were the symptoms of the glaucomatous damage progressing, undiagnosed in spite of all the other medical doctors that carefully examined her. We could not stop her hormones or change her shallows anterior chambers, but the reduction of the excessive water drank was enough to stop the glaucomatous evolution and to cure her migraines.

Water intoxication, edema and death: “Too much water can cause water intoxication. When the amount of water we take in cannot be excreted by the body, the body retains water. That dilutes one of the important elements of blood, which is sodium. When the sodium concentration in blood goes down, water moves into the cells. Most cells in the body can tolerate that--they swell. But brain cells tolerate it very poorly because they cannot expand against the skull. That causes neurological symptoms like headaches, confusion, and often seizures. It can even result in death. About a year ago (2007) there was a water drinking contest on a radio station in California. And a young woman drank herself to death. In a contest, the excitement may cause the secretion of what's called the antidiuretic hormone, which prevents the kidneys from excreting water. The California woman drank only about two gallons.” (Valtin H).

XI-2 and XI-3) - Caffeine, including soft drinks with caffeine (XI-3).
See coffee, tea, and mate (XI-10 below):
“Cola drink bottlers and canners receive FDA dispensation not to list caffeine as an ingredient. Cola drinks generally have 4 milligrams of caffeine per fluid ounce, coffee 12 to 16 milligrams.” (Encarta Encyclopedia).

The delicious and treacherous insecticide: Caffeine = 1,3,7-trimethylxanthine = 1-Methyltheobromine = 7-methyltheophylline = methyltheobromide = 1,3,7-trimethyl-2,6-dioxopurine = guaranine = 1,3,7-trimethyl-2,6-dioxo-1,2,3,6-tetrahydropurine = caffenium = Theine.
Caffeine and the water contained in soft drinks are strong etiologies to all Migraines, signs and symptoms, and the definitive damage of the Fluids Hypertension Syndromes. It is easy to get dependent to them, it is hard to leave them, and most people perceive this dependence as an innocent thing. We found patients with these disturbances, as with industrialized, as with homemade and “natural” caffeinated soft drinks. Many people think that when something is “natural” it causes no harm; this is a false idea!

A typical adolescent with Migraines and other sicknesses caused by caffeine and excessive water: We have a girl with 11-year-old, 1.52 meters (5 feet) tall, weighting 32 Kilograms (70 pounds), more or less white. She complained for the last 3 years of strong bi-temporal headaches at evenings, right eye with chronic redness, eye itching, eyelids swellings, sometimes conjunctivitis with awakening secretions and sinusitis. On ophthalmological exam, we found “all normal” with her eyes, no glass needed. Her Optic Nerve’s disks show 0.4/3/1.0.25 and 0.3/3/1/0.25 right and left eyes (Disk cup’s diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is the beginning of the glaucomatous damage but it is not yet Glaucoma. Her intraocular pressures presented 22 and 20 mmHg, right and left eyes, which explains the signs and symptoms of the Ocular Hypertension Syndrome. She was a drinker of Guaraná 1,000 milliliter (two pints) and around 2,700 milliliter (more than half gallon) of water daily, because of uncontrollable thirst. She did not have any menstruation yet. We explained to her the necessity of shortening all water and soft drinks, and advised her about headaches at her future menses.

Although she became better from her symptoms, when again examined after months, her intraocular pressures were 18 and 18 mmHg in both eyes, which is mildly high, and we prescribed her daily eye drops to lower this pressures. The caffeine she drank for years caused a definitive lesion in the ocular drainage, denominated as Schlem’s canal, which predisposed her to the glaucoma for her life.

Caffeine is naturally produced by the plants:
- Cassine - Yaupon holly (Ilex vomitoria),
- Cocoa beans (Cacao) (Theobroma cacao),
- Coffee beans (Coffea arabica),
- Cola nuts (Kola) (Cola acuminata),
- Fungus (Claviceps sorghi),
- Guaraná berries (Paullinia cupana),
- Mate leaves (Yerba mate) (Ilex paraguariensis),
- Tea leaves (Camellia sinensis),
- Yoco (Paullinia yoco),
- and at least by more other 55 plant species.

“Caffeine is a plant alkaloid, found in numerous plant species, where it acts as a natural pesticide that paralyzes and kills certain insects feeding upon them.”(Nathanson, JA).

Curing Teenager with Strong Migraines: We had a 13-year-old strong mulatta, whose ancestors were Black, Indian and White. She was 1.51 meters (4 feet and 11 inches) tall, 55 kilograms (121 pounds) of weight. She was suffering with strong daily Migraines for the last 3 months, at the right temporal and occipital areas, which worsened on awakening and before the menses. She also presented photophobia and eyes itching. She was multiple examined and medicated, and presented cranial X-rays and cranial Tomography that resulted “normal”. She was medicated with Homeopathy, without success. She was already using eyeglasses for astigmatism, which we found correct. She was a drinker of caffeinated “guaraná” soft drinks only at weekends, and about 1,400 milliliters (three pints) of water and juices daily. Her intraocular pressures were 14 mmHg (physiologic) in both eyes. Her anterior chambers were a little shallow in both eyes, which is not physiologic for her age. On direct ophthalmoscopy, her Optic Nerve’s disks show cups of 0.5/3/1/0.25 right eye and 0.6/3/1/0.25 left eye (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is the beginning of Normal (Peak) Tension Glaucoma, which we define as “suspect” glaucoma in her left eye. The little borders edemas of 0.25 dioptre is also a little Cerebrospinal Fluid Hypertension, simultaneous with her begin-
ning of glaucoma. We taught her to stop all caffeinated drinks, medicaments, and to restrict the liquids drinks to only the thirst needs.

After one month, she came again for exam, cured from all those symptoms, without any medicament. Here we see:

- The extreme sensibility of this teenager to the caffeine and excessive water;
- At how young age can begin the Normal (Peak) Tension Glaucoma;
- How the Migraines warn about the glaucoma beginning; and
- How easily we can cure all this sufferings.

In general, each of the following contains approximately 200 milligrams of caffeine:

- **One** 200 milligram caffeine pill
- **One** 12 oz cup of regular Starbucks coffee
- **590 milliliters** of Monster Energy
- **680 grams** of milk chocolate
- **470 milliliters** of regular coffee
- **1/2 tube** of Spazzstick Caffeinated Lip Balm
- **Two** Foosh Energy Mints
- **Two** Buzz Bites Chocolate Energy Chews
- **740 milliliters** of Bawls caffeinated drink
- **Three** standard Excedrin pills
- **710 milliliters** of Red Bull energy drink
- **One liter** of Vault energy drink
- **150 milliliters** of espresso from Robusta beans
- **1.2 liters** of black tea
- **1.2 liters** of Mountain Dew
- **1.8 liters** of typical soda pop
- **2.0 liters** of Coca-Cola Classic
- **2.4 liters** of green tea

The beverages with caffeine on the United States of America are denominated as “colas”, “soft drinks”, or “energy drinks”.

“Caffeine is widely considered a very benign substance, and it is ubiquitous in coffee, tea, and soft drinks. The estimated average daily intake is 99 mg. A cup of coffee can contain 127 mg of caffeine, tea up to 107 mg, and soft drinks up to 65 mg.” (Dharan, V B and others).

We do not know the caffeine amount of each Brazilian soft drink trademark, because the manufacturers do not inform this on the label.

“We have encountered 36 children and adolescents (17 girls and 19 boys) with daily or near-daily headache related to excessive caffeine intake in the form of cola drinks. The mean age of the subjects was 9.2 years (range 6-18) and mean headache duration was 1.8 years (range 0.6-5). All were heavy cola drinks consumers; at least 1.5 liters of cola drinks per day (192.88 mg of caffeine daily), and an average of 11 liters of cola drinks a week. Gradual withdrawal can be achieved without withdrawal headache and with complete disappearance of the induced chronic daily headache.” (Hering-Hanit R, and Gadoth N).

“The Blue Mountains Eye Study examined 3654 participants aged 49+ years in an area west of Sydney, Australia. Participants with open-angle glaucoma who reported regular coffee drinking had significantly higher mean intraocular pressure (19.63 mmHg) than participants who said that they did not drink coffee (16.84 mmHg). Participants consuming > or = 200 mg caffeine per day had higher mean intraocular pressure (19.47 mmHg) than those consuming < 200 mg caffeine per day (17.11 mmHg).” (Chandrasekaran S, and others).

We had 327 patients who mentioned regular use of soft drinks. They were 197 women and 130 men, with average age of 30.4 years.

These 327 users of soft drinks complained about:
126 patients (38.5%) with wide frontal migraines;
104 patients (31.8%) worsened their aches at morning;
97 patients (29.7%) with tearfulness and Rhinitis with coryza (rhinorrhea);
89 patients (27.2%) with temporal of head-top (vertex) migraines;
80 patients (24.5%) with eye’s itching or Blepharitis;
57 patients (17.4%) with ocular aches;
34 women (17.3% out of the 197 women) worsened during the menstrual cycle;
50 patients (15.3%) with eyes redness;
45 patients (13.8%) with occipital migraines;
42 patients (12.8%) with nausea and retching or vomits;
42 patients (12.8%) with photophobia;
35 patients (10.7%) with eyelids edema;
29 patients (8.9%) suffering from sneezing;
29 patients (8.9%) with dizziness - vertigo;
27 patients (8.3%) with Chronic cough without any pulmonary lesion.
And other signs and symptoms less frequent.
Only 17 patients (5.2%) did not complained about migraines and related signs or symptoms.

In these 327 users of soft drinks, we found:
- 150 patients (45.9%) presented minimal Optic Nerve’s disks edema;
- 105 patients (32.1%) presented evident (0.5 dioptre) Optic Nerve’s disks edema;
- 80 patients (24.5%) presented intraocular pressure of 17 mmHg or higher, when examined at the office; from these,
  - 17 patients (5.2% out of 327) presented intraocular pressure of 22 mmHg or higher;
- 30 patients (9.2%) were suspects of Glaucoma;
- 23 patients (7%) presented incipient Glaucoma;
- 13 patients (4%) presented advanced glaucoma;
- Only 22 patients (6.7%) did not present any of the above Ocular disturbances

- Headaches and Normal Tension Glaucoma in a child user of cola drinks: One of our patients was a white 5-year-old boy, 25 Kilograms (55 pounds), and 1.15 meters (3 feet and 9 inches) tall, otherwise healthy. He was complaining everyday of headaches at both head’s sides, at the head-top (vertex) and occipital. Another complaint was a skin congenital weakness, which made him easily wounded. He used to drink daily cola soft drink 1.000 milliliter (two pints) and some guarana. His intraocular pressures were 12 and 12 mmHg in both eyes, physiologic anterior chambers, but presented in his Optic Nerve’s disks increased cups of 0.6 disk diameter, 3 dioptre of depth and lamina cribosa’s pores perfectly visible grade 3 (0.6/3/3/0) and no borders edema. This is a suspicion of Glaucoma with “Normal (Peak) tension” at the office, caused by the caffeine. Nobody knows his intraocular height of tension when sleeping or at other hours that caused his Optic Nerve’s glaucoma at so young age.

- The other etiologies associated with soft drinks were:
  - 191 patients (58.4%) with excessive liquid drinks, besides the soft drinks;
  - 108 patients (33%) with coffee, mate or tea drinks;
  - 70 patients (21.4%) with beer drinks;
  - 33 patients (10.1%) presented shallow eyes anterior chamber;
  - 22 patients (6.7%) with wine drinks.
  - 20 patients (6.1%) with medicaments that raise the fluid pressures;
  - 18 patients (5.5%) were excessive users of computer or TV.

Caffeine is liberated from the tree litter in coffee plantations and accumulates in the soil. After 10 to 25 years, the caffeine in the soil can reach the level that produces toxic effects to the same plant and others around it, resulting in degeneration of the plant that produced the caffeine, and inhibition of growth of new ones.
We conclude that Caffeine is a poisonous and treacherous drug. Caffeine improves the headaches in minutes, but caffeine worsens them after some hours, or at the next day.


The intraocular pressure physiologically changes daily, rising during the sleep or at noon and progressively decreasing while awake.

“The intraocular pressure at 6 am with the patient laid down was bigger than the intraocular pressure average from the daily tensional curve and the small curve.” (Translated from Portuguese). (Rodrigues L D and others.)

“The average reproduced Intraocular Pressure (IOP) at each measurement time peaked at 3 am during sleep (supine position); with sitting diurnal IOP or supine diurnal IOP, the peaks IOP were at noon…. Intraocular pressures peaked in most patients during sleep (Hara T, Hara T and Tsuru T).”

The patients who presented awakening migraines, few hours after this awakening highest value, physiologically their intraocular pressure lowers below 17 mmHg and the Ocular Migraine vanishes.

XI- 5 and XI- 6 and XI- 9) – Excessive Visual Strain:

Excessive visual strain, myopic over-corrected spectacles or contact lenses, and astigmatism or Hyperopia under-corrected, all caused Migraines in our patients. In the patients with excessive use of TV, computer and electronic games, we found a significant increase of migraines and a small incidence of glaucoma, because of their younger average ages (Table XI-3).

<table>
<thead>
<tr>
<th>Excessive Visual Strain related with Migraines and Glaucoma</th>
<th>Average ages years</th>
<th>Quantity</th>
<th>With Migraines and Variants</th>
<th>Without Migraines</th>
<th>With All Glaucomas</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patients</td>
<td>38.7</td>
<td>1,270</td>
<td>73.3%</td>
<td>23.7%</td>
<td>19.1%</td>
</tr>
<tr>
<td>Hyperopia and presbyopia</td>
<td>52.1</td>
<td>234</td>
<td>73.5%</td>
<td>23.5%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Myopia</td>
<td>33.1</td>
<td>286</td>
<td>62.2%</td>
<td>37.8%</td>
<td>21%</td>
</tr>
<tr>
<td>Astigmatism</td>
<td>38.7</td>
<td>286</td>
<td>71.7%</td>
<td>28.3%</td>
<td>17.8%</td>
</tr>
<tr>
<td>Excessive TV or Computer</td>
<td>29.3</td>
<td>57</td>
<td><strong>91.2%</strong></td>
<td><strong>8.8%</strong></td>
<td><strong>14%</strong></td>
</tr>
</tbody>
</table>

Table XI-3: Excessive visual strain related with Migraines and Glaucoma.

We marked boldface the most relevant numbers.

We suppose that after hours of continuous visual strain, the pathophysiology of these Migraines is:
- The tired eye’s accommodation muscles ache immediately;
- During the following sleeping time, the intraocular pressure rises and causes:
  - Headaches and migraines at the morning.
  - Increase the ocular anterior-posterior diameter in young people, causing axial myopia in them.
  - Eventually cause relative ischemia in the retina causing its progressive lesion, and stretching the lamina cribosa of the Optic nerve increasing its cupping, both resulting in a progression of the “low-tension” glaucoma.

We conclude that the patients with Myopia, Hyperopia, Presbyopia and Astigmatism presented Migraines with a similar incidence as the other patients. Myopia had a little higher relation with glaucoma.

We conclude that excessive use of TV or computer increases the incidence of Migraines but not the incidence of Glaucoma. Probably this is consequent to the younger average age of the patients with excessive use of TV or computer (29,3 years; Table XI-3) than the Glaucoma patients (45,1 years; Table IV-3).
XI- 7) – Intraocular pressure bigger than 16 mmHg:
We collected 270 patients that on their first examination presented the intraocular pressure in any aye with 17 mmHg or more, on the seated position in the office.

Out of these 270 patients, we found:
- 251 patients (93%) with some migraine or other sign or symptom, so distributed:
  - 96 patients (35.6%) with wide frontal migraines;
  - 85 patients (31.5%) worsened at morning;
  - 84 patients (31.1%) with blepharitis or itching eyes;
  - 76 patients (28.1%) with tearfulness or Rhinitis with coryza (rhinorrhea);
  - 73 patients (27%) with aches at their eyes;
  - 48 patients (17.8%) with temporal migraines or at the head-top (vertex);
  - 46 patients (17%) with eyes redness;
  - 43 patients (15.9%) with eyelids edemas;
  - 38 patients (14.1%) with occipital migraines;
  - 35 patients (13%) with photophobia;
  - 20 women (11.9% out of 168 women) worsened with the menses.
  - 22 patients (8.1%) with dizziness - vertigo;
  - 20 patients (7.4%) with Chronic cough without any pulmonary lesion;
And other signs and symptoms less frequent.

At the examination of these 270 patients with IOP of 17 mmHg or bigger, we found:
- 103 patients (38.1%) presented some glaucoma, so distributed:
  - 30 patients (11.1%) suspects of Glaucoma;
  - 35 patients (13%) with incipient glaucoma;
  - 38 patients (14.1%) with advanced glaucoma;
  - 126 patients (47.6%) with some Optic Nerve’s borders edema, so distributed:
    - 95 patients (35.2%) with minimal Optic Nerve’s borders edema;
    - 31 patients (11.5%) with evident Optic Nerve’s borders edema;
    - 60 patients (22%) without any Optic Nerve's borders edema or glaucoma.

The etiologies of these 270 patients with rise of the intraocular pressures were:
- 150 patients (59.8%) drank too much liquids, with an average of 3.2 liters each day,
- 145 patients (53.7%) drank caffeine, as coffee, mate, tea or soft drinks.
- 103 patients (38.1%) with shallow anterior chamber;
- 80 patients (31.9%) drank caffeinated soft drinks;
- 77 patients (30.7%) drank coffee, mate or tea;
- 76 patients (30.3%) drank beer;
- 34 patients (13.5%) drank medicaments that raise the fluids’ pressures.
- 14 patients (5.6%) had familial glaucoma;
- 10 patients (4%) presented visceral disturbances.
- And other lesser frequent etiologies.

We conclude that intraocular pressure of 17 mmHg or more in 93% of patients was related with some migraine or other sign or symptom; in 38.1% of patients was related with some glaucoma.
We conclude that even with this rise of the intraocular pressure, 47.6% of patients presented also rise the Cerebrospinal fluid pressure bigger than the intraocular pressure, at some hour of the day.

XI- 8 and XI- 14) Beer and Wine Migraines, Benign Intracranial Hypertension and Glaucoma:
We had 267 patients (21% out of 931) when drinking more than 500 milliliter of beer, and 71 patients (5.6% out of 931) when drinking more than 200 milliliter of wine, worsened their Migraines and other symptoms few hours after the drinks or at the next morning, and this is known as Hangover. Some of these patients drank both beer and wine.

At Fridays and Saturdays the volume of beer drank usually was increased.

From the other 339 patients without Migraines, only 33 (9.7% out of 339) referred drinking beer, and three out of these 33 drank beer and wine.

The Migraines from hangover disappeared after few hours up to 3 days. It is not rhythmical: it is dependent from the drinks.

Most men tolerate well more than 1000 milliliter of beer or 200 milliliter of wine drinks each day through many years, without Migraine, but the beer and wine intolerance can appears one day and stays for lifelong. The beer and wine intolerance increases with the increasing age.

The beer and wine intolerance in women is more common and usually begins sooner, at teen ages.

Since the year of 1985, it is known that there is a greater frequency of alcoholic drinkers, between both the Normal (Peak) tension and the high-tension glaucoma patients, than in the non-glaucomatous (Klaver J H J and others).

The concomitant ingestion of alcohol and caffeine increases the caffeine toxic effect because the alcohol difficults the caffeine elimination from the body: “Alcohol intake of 50 g/day significantly prolonged caffeine half-life by 72% and diminished caffeine clearance by 36%”(George J, and others).

The 267 beer drinkers were 163 men (61%) and 104 women (39%). Their average age was 42.2 years.

At the examination of these 267 patients with migraines and other signs and symptoms related with beer drinks, we found:
- 59 patients (22.1%) presented some glaucoma, so distributed:
  - 24 patients (9%) suspects of Glaucoma;
  - 15 patients (5.6%) with incipient glaucoma;
  - 20 patients (7.5%) with advanced glaucoma;
- 193 patients (72.3%) with some Optic Nerve’s borders edema, so distributed:
  - 121 patients (45.3%) with minimal (0.25 dioptre) Optic Nerve’s borders edema;
  - 72 patients (27%) with evident (0.5 dioptre) Optic Nerve’s borders edema;
  - 27 patients (10.1%) with migraines but without any Optic Nerve's borders edema or glaucoma.

We conclude that beer drinks, in 89.9% of patients with migraines, hangover or variants, are excellent etiologies to Benign Intracranial Hypertension and to glaucoma.

**Excessive Beer, Water and Nausea at awakening** – We had an entirely black patient, strong ship-painter, 31-year-old, 1.96 meters (6 feet and 5 inches) tall and 82 kilograms (181 pounds) of weight. He was complaining about chronic mild aches in his left eye since one month ago, when he suffered with a bilateral conjunctivitis. On 3 occasions at the last month, 3 medical ophthalmologists had examined and medicated him with eye drops, without success.

Talking with him, we discovered that for more than one year he suffered with chronic nausea and retching at awakening, and sometimes the entire morning, which disturbed his breakfasts and lunches. He also complained about small occipital headaches. Asking about his drinks, we discovered that during the last 10 years, he drank at work, 5 days a week, without any thirst, eight bottles of 1 liter each, totaling 8 liters (more than 2 gallons) of water daily. At Saturdays and Sundays, he drank 10 liters of beer each day. He was medicated for gastritis few months ago and became better.

His ophthalmological exam was almost entirely “normal”. His intraocular pressures presented 14 and 16 mmHg (physiologic). On direct ophthalmoscopy, he presented both Optic Nerve’s disks with 0.2/1/0.75 (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), and extreme Central Retinal Artery and Vein branches tortuously.
Here we see a typical Cerebrospinal Fluid Hypertension Syndrome, caused only by excessive water and beer drinks, before any definitive damage. It is admirable the endurance of his Optic nerves to such pressure overload, without any damage until now. It is also remarkable the paucity of symptoms from it. The Central Retinal Vein branches engorgement and tortuously occurs because the Cerebrospinal Fluid Hypertension stretches the Optic Nerve in its sheath. The Central Retinal arterial branches tortuously probably was secondary to the blood stasis in the retinal veins.

He came again after 6 months, because he suffered eyes burning from the welding radiation. He had shorten his drinks to around 3,000 milliliters each day. He became free from the headaches and nausea, and his eyes show reduction of their arterial and veins engorgement. The Optic Disks also show the remnants of the previous borders edema.

At the following exam, after 1 year, he was without any complaint and presented both Optic Nerve's disks cups of 0.3/2/0/0, which is physiologic.

After 2 years, he came with redness in his left eye, 2 days after have drank 1 liter of caffeinated soft drink at a birthday party. Is it necessary to explain it again? To him and to you?

The 71 wine drinkers were 29 men (40.8%) and 42 women (59.2%). Their average age was 47.1 years.

On the examination of these 71 patients with migraines and other signs and symptoms related with wine drinks, we found:

– 22 patients (31%) presented some glaucoma, so distributed:
  – 10 patients (14.1%) suspects of Glaucoma;
  – 6 patients (8.5%) with incipient glaucoma;
  – 6 patients (8.5%) with advanced glaucoma;
  – 46 patients (64.8%) with some minimal Optic Nerve’s borders edema, so distributed:
    – 34 patients (47.9%) with minimal Optic Nerve’s borders edema;
    – 12 patients (16.9%) with evident Optic Nerve’s borders edema;
    – 9 patients (12.7%) with migraines but without any Optic Nerve's borders edema or glaucoma.

We conclude that wine drinks are excellent etiologies both to Benign Intracranial Hypertension (but less than beer drinks) and to glaucoma (but more than beer drinks).

Alcoholic Distilled Drinks: Less than 1% of our patients with Migraine or Glaucoma were due to distilled drinks (Cachaça, Whiskey, Sake, Nihonshu, ).

“Alcohol given orally or intravenously to patients reduced the pressure in glaucomatous eyes.” (Houle, R. E. and Grant, W. M.).

However, the distilled drinks have more than distilled alcohol, they can cause vasoconstriction and vasodilation, disturbing the fluids pressures and consequently causing visual Aura, with and without Migraines.

Additionally, there is an ocular toxic effect from protracted use of alcoholic distilled drinks.

One patient who were pure distilled drinker told us that his mates, which drank cocktails with distilled drinks associated with caffeinated soft drinks, died soon from liver sicknesses. Probably, the associated toxic effects of alcohol and caffeine become more lethal. We do not have statistics from liver sicknesses or deaths.

“The study suggests that it exists a strong correlation between ocular disturbances, as increased cup/disk and contrast visual reduction, with alcoholism”. (Translated from Portuguese). (Celino A C, and others).

As the pathological effects are different, from distilled drinks, from beer, and from wine, the many researches referring to all of them together as “alcoholism” without specifying the kind of drinks are useless.

We noted that many of our patients who drank wine became diabetics. This occurred specifically with wine, and not with other drinks. We do not know why, and we do not have statistics about this.

XI- 10) - Coffee, mate, and tea (see also XI- 2 – Caffeine above).

“Caffeine is a plant alkaloid, found in numerous plant species, where it acts as a natural pesticide
that paralyzes and kills certain insects feeding upon them.” (Nathanson, JA).

### CAFFEINE IN FOODS AND BEVERAGES.

<table>
<thead>
<tr>
<th>Food/Beverage</th>
<th>Caffeine (milligrams)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coffee</strong></td>
<td></td>
</tr>
<tr>
<td>Espresso coffee, brewed, 8 fluid ounces</td>
<td>502</td>
</tr>
<tr>
<td>Coffee, brewed, 8 fluid ounces</td>
<td>85</td>
</tr>
<tr>
<td>Coffee, instant, 8 fluid ounces</td>
<td>62</td>
</tr>
<tr>
<td>Coffee, brewed, decaffeinated, 8 fluid ounces</td>
<td>3</td>
</tr>
<tr>
<td>Coffee, instant, decaffeinated, 8 fluid ounces</td>
<td>2</td>
</tr>
<tr>
<td><strong>Tea</strong></td>
<td></td>
</tr>
<tr>
<td>Tea, brewed, 8 fluid ounces</td>
<td>47</td>
</tr>
<tr>
<td>Tea, herbal, brewed, 8 fluid ounces</td>
<td>0</td>
</tr>
<tr>
<td>Tea, instant, 8 fluid ounces</td>
<td>29</td>
</tr>
<tr>
<td>Tea, brewed, decaffeinated, 8 fluid ounces</td>
<td>3</td>
</tr>
<tr>
<td><strong>Chocolate Beverages</strong></td>
<td></td>
</tr>
<tr>
<td>Hot chocolate, 8 fluid ounces</td>
<td>5</td>
</tr>
<tr>
<td>Chocolate milk, 8 fluid ounces</td>
<td>5</td>
</tr>
<tr>
<td><strong>Soft Drinks</strong></td>
<td></td>
</tr>
<tr>
<td>Cola, 12 fluid ounce can</td>
<td>37</td>
</tr>
<tr>
<td>Cola, with higher caffeine, 12 fluid ounce can</td>
<td>100</td>
</tr>
<tr>
<td>Cola or pepper-type, diet, 12 fluid ounce can</td>
<td>49</td>
</tr>
<tr>
<td>Lemon-lime soda, with caffeine, 12 fluid ounce can</td>
<td>55</td>
</tr>
<tr>
<td><strong>Chocolate</strong></td>
<td></td>
</tr>
<tr>
<td>Milk chocolate bar, 1.55 fluid ounces</td>
<td>9</td>
</tr>
<tr>
<td>M &amp; M milk chocolate candies, 1.69 fluid ounces</td>
<td>5</td>
</tr>
<tr>
<td>Dark chocolate, semisweet, 1 fluid ounce</td>
<td>20</td>
</tr>
</tbody>
</table>


Caffeine is an insecticide: “Previous experiments showed that caffeine blocks the development of Aedes aegypti (Diptera, Culicidae) in the larval stage, consequently inhibiting the production of adults. This study results corroborate caffeine as an alternative as an important Aedes aegypti control agent to avoid resistance.” (Laranja A T, and others).

Between “all adult residents (N = 5758; 2681 men and 3077 women) in Daisen, a rural community in western Japan...Migraineurs consume significantly more fatty/oily foods, coffee, and tea... and consume significantly fewer fish than nonheadache residents of the same community.” (Takeshima T, and others).

A table with the medicaments with their dosages of caffeine at the USA, according to the Food and Drug Administration, is at the end of this E-book.

When we join the statistics with all sources of caffeine, we see that caffeine is the main etiology to all Migraines on our patients. Other doctor also found that headaches are caused by caffeine:

“Caffeine dependence is a frequent cause of chronic daily headache. As little as 100 mg caffeine may be enough to cause the headache, i.e. the equivalent of one cup of coffee, one bar of dark chocolate, 2 cups of tea or 2 tablets of an analgesic-coffee combination preparation. The therapy consists of discontinuing the caffeine consumption.” (Schonewille W J).

Caffeine is a treacherous poison: Caffeine associated with analgesics is in more than 50 trademarks of Brazilian medicaments to Migraines and other aches. Caffeine turns the analgesic more efficient, but we observed on our patients that the same caffeine worsens their Migraines after some 2 hours, or at the next day.
Therefore, the user needs to repeat drinking caffeine many times everyday, and becomes dependent to it. We had patients that in order to medicate their migraines, take caffeenated analgesics up to 10 tablets each day, everyday. This is the origin of the analgesic-abuse headaches. Rebound headache occurs when stopping the caffeine, and some other drugs.

No person admits his dependence to caffeine. People talk about the caffeine consumption as an innocent “habit”, but they cannot and do not stop it, even a single day, without strong headaches.

It is very difficult to stop the caffeine use. Therefore, the user is dependent.

People use coffee, mate, and tea as alimentary complements, working stimulants, domestic medicament, weight and sleep reducers. Consequently, lack of sleep is a major contributing factor to the headaches and migraines.

We had 273 patients who mentioned regular use of coffee, mate or tea. They were 185 women and 88 men, with average age of 41.9 years. We did not make statistics on decaffeinated coffee, because there were no one of these between our patients. We paid no attention on the relevant toxic effect of Theobromine, and we did not ask to our patients about their chocolate consumption. Now it is too late for this statistic.

The 273 patients who use Coffee, mate or tea complained about:

- 132 patients (42.4%) wide frontal migraines;
- 114 patients (41.8%) worsened their aches at morning;
- 74 patients (27.1%) with tearfulness and Rhinitis with coryza (rhinorrhea);
- 72 patients (26.4%) with temporal or head-top (vertex) migraines;
- 63 patients (23.1%) with eye’s itching or Blepharitis;
- 59 patients (21.6%) with occipital migraines;
- 54 patients (19.8%) with ocular aches;
- 36 women (19.5% out of the 185 women) worsened during the menstrual cycle;
- 47 patients (17.2%) with eyes redness;
- 38 patients (13.9%) with photophobia;
- 28 patients (10.3%) with nausea and retching or vomits;
- 25 patients (9.2%) with eyelids edema;
- 24 patients (8.8%) with Chronic cough without any pulmonary lesion.
- 23 patients (8.4%) with dizziness – vertigo;
- 18 patients (6.6%) suffering from sneezing;

And other signs and symptoms less frequent.

Only 13 patients (4.8%) did not complained about migraines or related signs or symptoms.

Caffeine and theobromine when ingested in small doses as a teacup once a day, in few minutes increase the arterial pressure (and the humor) and reduce the Migraines. After some hours, there is a rebound effect, raising the intraocular, Cerebrospinal or inner ears fluids’ pressures, and causing Migraines.

We plenty verified that the affirmative “Three 8 oz. (3 x 8 x 31.1 grams = 746.4 grams) cups of coffee (250 milligrams of caffeine) per day is considered an average or moderate amount of caffeine”, and complemented with “Moderate caffeine intake, however, is not associated with any health risk”, (McGee, W.), is wrong for the Brazilian population. Is it true for any population?

**Caffeine and Rhinitis:** We had a healthy patient with 32-year-old, man, with Myopia, who swallowed Guaraná (Paullinia cupana) tablets, 1,000 mg everyday, which contains 37.3 mg of Caffeine (3.73%), (Guaranine), more Theophiline, Theobromine, etc, which are caffeine's derivatives. He did so in order to be able to study daily until midnight. After one month with this daily Guaraná tablets, he began to present “chronic Allergic Rhinitis”, and after two months he presented on direct ophthalmoscopy the Optic Nerve's borders edemas, of 0.5 dioptre in the Right Eye and 0.75 dioptre in the Left Eye, which is the signal of the Cerebrospinal Fluid Hypertension Syndrome. He became better from his symptoms stopping all caffeine tablets. The Optic Nerve’s borders edemas will take months or years to disappear.
Recently we have examined patients with many signs and symptoms of the Fluids Hypertension Syndromes that daily drank natural fruits juices prepared together with high doses of Guaraná, and they call this a “juice bomb”. The most popular juice bomb on Brazil is “Açaí with Guaraná”. It is delicious.

**Eyes rubbing:** We had sucking infants with the rubbing eyes signal, caused by their mothers daily drinking caffèinated coffee and colas. All of them cured after their mothers stopped to give caffeine with their breast milk. The infants did not need any medicament.

We suppose that there are two possible pathophysiologies for explain this eyes rubbing:

a- The intraocular pressure rise caused by the caffeine, which caused eyes sores and rubbing.
b- The beginning of the Keratoconus caused by the keratinocites being killed by the caffeine: the cornea aches and forces the patient to rub it with his fingers.

**In these 273 drinkers of Coffee, mate or tea, we found:**

- 133 patients (48.7% out of 273) presented minimal Optic Nerve’s disks edema;
- 73 patients (26.7% out of 273) presented evident (0.5 dioptre) Optic Nerve’s disks edema;
- 77 patients (28.2% out of 273) presented intraocular pressure of 17 mmHg or higher, when examined at the office; from these,
  - 14 patients (5.1% out of 273) presented intraocular pressure of 22 mmHg or higher;
  - 32 patients (11.7% out of 273) were suspects of Glaucoma;
  - 21 patients (7.7%) presented incipient Glaucoma;
  - 16 patients (5.9%) presented advanced glaucoma;
  - Only 13 patients (4.8%) did not present any of the above ocular disturbances.

It is necessary to distinguish between the short time effect of coffee, which is an intraocular pressure rise of up to 4 mmHg in one hour (Avisar R, and others), and the long run effect which is a permanent disturbance of the intraocular drainage system of the Aqueous humor, which after years of caffeine intoxication causes the chronic open-angle glaucoma.

**Associated with coffee, mate or tea, the other Etiologies were:**

- 162 patients (59.3%) with excessive liquid drinks, besides the soft drinks;
- 108 patients (39.6%) with excessive soft drinks;
- 80 patients (29.3%) with beer drinks;
- 52 patients (19%) presented shallow eyes anterior chamber;
- 29 patients (10.6%) with medicaments that raise the fluid pressures;
- 23 patients (8.4%) with wine drinks.
- 13 patients (4.8%) with visceral disturbances;
- 11 patients (4%) with familial glaucoma;
- 10 patients (3.7%) were excessive users of computer or TV.
- And other less frequent etiologies.

Physicians prescribe Caffeine as a weight-loss medicament (Uwaifo G I, and Arioglu E), and “to treat infants with apnea of prematurity and infants with Bronchopulmonary Dysplasia” (Driscoll W and Davis J).

The physician that prescribes Caffeine to the patient, medicates the actual sickness, and worsens many other diseases on the patient’s future. The sicknesses caused or worsened by caffeine on the adults are listed above, at the summary. Which are the long-time effects of Caffeine on premature infants?
**Coffee and many sicknesses:** We had a geometry teacher with 45-year-old, 1.69 meters tall (5 feet and 6 inches), weighting 44 kilograms (97 pounds). She had one child, had Hyperopia and used eyeglasses for distance and for near. She was complaining about continuous years of general indisposition, insomnia, eyes sores, chronic eyes secretion, tearful eyes, headaches at the head’s top (vertex), dizziness, retching, vomits, and four new renal stones each year. She was white; her father was a German, and her Brazilian mother had Portuguese and Black ancestors. Her migraines became better eating some honey, and worsened eating fried foods. She used to drink water 3,300 milliliters (near one gallon), and 1,000 milliliter of coffee (33 fluid ounces) daily. She was suffering with thrombocytopenia for the last four years, with blood platelets of 90,000 (very low). Her intraocular pressures were always physiologic, and the Optic Nerves’ discs were normal, without any cup (0/0/0/0) or edema, showing us that she was suffering from the Inner Ears’ Hypertension, consequent to the excessive water and caffeine intoxication.

For beginning the treatment, we prescribed her new eyeglasses, to reduce the water drank, and to stop all caffeine.

After two weeks she came to bless me: “I was born again! I had 3 days of headaches, and now I sleep and wake well, I have my energy again! All my aches, retching, eyes sores, tearfulness, secretion, all vanished”. “Thank you doctor!” It is good to hear this, isn’t it?

After one year she came again without any caffeine, better from her thrombocytopenia without any medicament, with 145,000 platelets in the blood. She suffered only one renal stone this year, instead of the four she was used to have. It is good to become free from the caffeine!

There are few or no short (in one hour) effects of caffeine drinks in intraocular pressure or in Optic nerve's edema. The toxic effects of caffeine which we observed were caused after months or years of daily use. Caffeine is really treacherous.

We conclude that Caffeine is a treacherous and a worsening poison. The chronic use of Caffeine (1,3,7-trimethylxanthine) from coffee, mate, tea and soft drinks is a strong etiology to all Migraines, signs and symptoms, it causes definitive damage of the Fluids Hypertension Syndromes and many other sicknesses listed at the summary.

XI- 11) – Shallow Eye’s Anterior Chamber: All the Glaucoma Etiologies or Risk Factors at beginner stages can do small rising of intraocular pressure and consequently the Migraines or interchangeable signs or symptoms. The most frequent eye’s anatomic etiology is the shallow Anterior Chamber, which is mainly inherited; it becomes even shallower with increasing age.

**We found this shallow anterior chamber in:**
- 166 patients (17.8%) out of 931 Migraine patients, while only in
- 5 patients (1.5%) out of 339 patients without Migraines.

**The 166 migraine patients with shallow eye’s anterior chamber complained about:**
- 67 patients (40.4%) drank caffeine, as coffee, mate, tea or soft drinks.
- 63 patients (38%) with wide frontal Migraines;
- 61 patients (36.7%) worsened on awakening;
- 52 patients (31.3%) with tearfulness and Rhinitis;
- 44 patients (26.5%) with ocular migraines;
- 43 patients (25.9%) with itching eyes or blepharitis;
- 37 patients (22.3%) with temporal or head-top (vertex) migraines;
- 32 patients (19.3%) with eye’s redness;
- 31 patients (18.7%) with occipital migraines;
- 23 patients (13.9%) presented eyelids edemas;
- 20 patients (12%) presented photophobia;
- 13 women (10.3% out of the 126 women) worsened during the menstrual cycle;
- 14 patients (8.4%) with Chronic cough without any pulmonary lesion;
- 14 patients (8.4%) presented nausea and retching or vomits;
- And other lesser signs or symptoms.

- We found on the examination in these patients with Shallow Eye’s Anterior Chamber:
  - 73 patients (44%) with minimal (0.25 dioptre) Optic Nerve’s edema;
  - 14 patients (8.4%) with evident Optic Nerves’ edema;
  - 21 patients (12.7%) suspects of Glaucoma;
  - 21 patients (12.7%) with incipient glaucoma;
  - 15 patients (9%) with advanced glaucoma;
  - 103 patients (62%) with intraocular pressure of 17 mmHg or more, and out of these 103,
    - 29 patients (17.5%) with only this rising intraocular pressure and no other pathology;
  - Only 9 patients (5.4%) did not present any of the above signs or symptoms.

XI- 12) – Menstrual Rhythmic Variation of Intraocular, Cerebrospinal and Inner Ears’ Fluids Pressures (Premenstrual syndrome):

There is a cyclic worsening of migraines with the menstrual periodicity.

The Menstrual Migraine is secondary to the cyclic fluids accumulation and discharge determined by the rise and downs of the hormone Estrogen, causing the intraocular, Cerebrospinal and inner ears fluids’ pressures raises and downs. It is demominated as “Premenstrual Syndrome” or Premenstrual dysphoric disorder.

The raising and downs timings of the Cerebrospinal and Ocular fluids’ pressures are different one from the other. Each time one of these pressures is above or below the other, the Lamina Cribosa of the Optic Nerve is stretched from one side to the other, and it aches as Migraines and all the other signs and symptoms. The same mechanism causes the aches at other nerve’s lamina cribosa or foramen.

After expelling the excessive fluids, all the pressures and stretches reduce and the Migraine finishes.

We observed increased monthly cyclic migraines in women who do not menstruate, consequent of surgeries or medicaments, but we did not made statistics about this.

“As many as 60% of women migraineurs report an association between migraine and menstruation, and evidence suggests that estrogen withdrawal may be a trigger for menstrual migraine in susceptible women. Moreover, in the majority of women, migraine frequency increases during the pill-free interval with oral contraceptive use and during the postpartum period, which are other times of decreasing estrogen levels. Migraine frequency tends to decrease during periods of increasing or stable estrogen levels”. (Zacur HA).

“Esterified estrogens combined with methyltestosterone produce a clinically significant increase in Intra-Ocular Pressure in postmenopausal women with dry eye syndrome.” (Khurana RN, Labree LD, Scott G, Smith RE, Yiu SC).

“Headache, especially migraine, was more likely among premenopausal women using oral contraceptives containing estrogen.”(Aegidius K, and others).

As Menstrual Migraines are simultaneously symptoms (Migraines) and etiologies (menses), their statistics are above, at the item “All Migraines” (item VI).

As the estrogen cycle only occurs in women on the fertile period or when taking contraceptives, this etiology in addition to all the others cause to them much more migraines and with bigger intensity than to other women.

We conclude that menstrual migraines have high correlation with Cerebrospinal Fluid Hypertension syndrome, and low correlation with Ocular Hypertension Syndrome and Glaucoma.

XI- 13) - medicaments (without caffeine) that raise the fluids pressures:

There are many medicaments already known as raising the intraocular pressure and aggravating the glaucoma, as corticosteroids, psychotropics, vasodilators and other steroids. We suppose that these medicaments also raise other fluids pressures, as the Cerebrospinal fluid and the inner ears’ Perilymph and Endolymph.

We did not made statistics detailing which medicament the patients were using.

“NSAIDs can activate the renin-angiotensin-aldosterone cascade, and the increased Aldosterone leads to Na+-retention and overhydration”(Poul-Erik Paulev)\textsuperscript{12}. 
Angle closure glaucoma was associated with uveal effusion on therapy with topiramate use. (Thambi L, Kapcala LP, Chambers W, et al).

We had 102 patients who mentioned regular use these medicaments. They were 70 women and 32 men, with average age of 47 years.

These 102 patients’ users of medicaments that raise the fluids’ pressures complained about:
- 43 patients (42.2%) wide frontal migraines;
- 40 patients (39.2%) worsened their aches at morning;
- 31 patients (30.4%) with tearfulness and Rhinitis with coryza (rhinorrhea);
- 29 patients (28.4%) with eye’s itching or blepharitis;
- 22 patients (21.6%) with occipital migraines;
- 21 patients (20.6%) with ocular aches;
- 21 patients (20.6%) with temporal or head-top (vertex) migraines;
- 20 patients (19.6%) with eye’s itching or blepharitis;
- 13 patients (12.7%) with dizziness - vertigo;
- 8 women (11.4% out of the 70 women) worsened during the menstrual cycle;
- 11 patients (10.8%) with nausea and retching or vomits;
- 11 patients (10.8%) with Chronic cough without any pulmonary lesion.
- 9 patients (8.8%) with eyelids edema;
- 8 patients (7.8%) with photophobia;
- 8 patients (7.8%) suffering from sneezing;
- And other signs and symptoms less frequent.
- Only 4 patients (3.9%) did not complained about migraines or related signs or symptoms.

In these 102 patients with medicaments that raise the fluids’ pressures, we found:
- 47 patients (46.1% out of 102) presented minimal Optic Nerve’s disks edema;
- 19 patients (18.6% out of 102) presented evident (0.5 dioptre) Optic Nerve’s disks edema;
- 34 patients (33.3% out of 102) presented intraocular pressure of 17 mmHg or higher, when examined at the office; these 34 patients presented:
- 15 patients (14.7% out of 102) presented intraocular pressure of 22 mmHg or higher.
- 7 patients (6.9% out of 102) were suspects of Glaucoma;
- 9 patients (8.8%) presented incipient Glaucoma;
- 9 patients (8.8%) presented advanced glaucoma;
- Only 10 patients (9.8%) did not present any of the above ocular disturbances.

We conclude that the protracted use of psychotropic medicament causes evident Cerebrospinal Fluid Hypertension Syndrome but inhibits their aches.

The other Etiologies or Risk Factors associated with the 102 patients with medicaments that raise the fluids’ pressures, were:
- 58 patients (56.9%) with excessive liquid drinks, besides the soft drinks;
- 45 patients (44.1%) drank caffeine, as coffee, mate, tea or soft drinks.
- 29 patients (28.4%) presented shallow eyes anterior chamber;
- 20 patients (19.6%) with excessive soft drinks;
- 17 patients (16.7%) with beer drinks;
- 7 patients (6.9%) with visceral disturbances;
- 4 patients (3.9%) with wine drinks.
- 4 patients (3.9%) were excessive users of computer or TV.
- And other less frequents etiologies.
Some patients with Migraine drank coffee or caffeinated soft drinks each day, and on the same day they took psychotropic drugs depressors for sleep: they increased the fluids pressures by both ways, everyday. When the intraocular pressure surpassed 22 mmHg, the Migraine lessened or disappeared (Graph IV-1), and the patients felt they had their Migraines diminished with these medicaments.

The vasodilators besides raising the fluids pressures also worsen the Migraine by reducing the arterial pressure. The vasodilator that most frequently caused Migraine and worsened the glaucoma in our older patients was Ginkgo biloba. Other vasodilators that also worsen the Fluids Hypertension Syndromes are Nitrates (manly Nitroglycerin), Nitrites, and Monosodium Glutamate.

We had women who daily take until 16 different medicaments together in slim down formulas, frequently presenting Migraines secondary to raising her intraocular pressures to 17 or 18 mmHg. After stopping these formulas, their intraocular pressures lowered to 16 mmHg or lesser and the Migraines finish. On Brazil, it is popular the “Thirty herbs tea” daily drank in order to get slimmer, which is plenty with caffeine.

We had a patient man with Cerebrospinal fluid pressure Migraine from excessive self-medicated Testosterone.

Aegidius K and others, studying pre-menopausal women, found relation between occurrence of Migraines and their use of estrogen-containing oral contraceptives.

We had many lean women with Fluids Hypertension Syndromes caused by estrogen-containing contraceptives, as oral as injected ones, but we did not made statistics on this.

Intra-nasal corticosteroids raise the intraocular pressure and cause the respective migraine: “On reviewing the international data collected in the World Health Organization's global pharmacovigilance programme... was found 38 case reports of migraine in suspected connection with Intranasal corticosteroids. These reports came from five countries and concerned six different drugs.” (Pokladnikova J, and others).

XI- 15) – Excessive computer and TV (Visual and Low illumination strain):

The vision strain with low-illumination causes pupil dilatation and raises the intraocular pressure, with consequent Ocular Migraines or “Tension type” migraines. At older times, this occurred with photographers in dark rooms and with needlewomen with deficient illumination. When the patient adds coffee to stay awake on the computer work, the intraocular pressure will raise more at the following night.

Nowadays this low illumination strain occurs using dark or photo-chromatic sunglasses, or seeing TV or computer in a scarcely illuminated room many hours a day, everyday. The sensitivity to light caused by the rise of intraocular pressure makes pleasant the use of dark glasses. The dark glasses enlarge the pupil, increasing the intraocular pressure and consequently the light-sensitivity, in a vicious cycle, causing Migraines and eventually damaging the Optic Nerve and causing Glaucoma.

We collected 57 patients with excessive use of TV or computer. They had average age of 29.3 years. They were 27 (47.4%) men and 30 (52.6%) women.

These 57 patients with excessive use of TV or Computer complained about:
- 25 patients (43.9%) wide frontal migraines;
- 18 patients (31.6%) with tearfulness and Rhinitis with coryza (rhinorrhea);
- 12 patients (21.1%) with eyes redness;
- 9 patients (15.8%) with eye’s itching or blepharitis;
- 9 patients (15.8%) with ocular aches;
- 8 patients (14%) with temporal or head-top (vertex) migraines;
- 6 patients (10.5%) worsened their aches at morning;
- 3 women (10% out of the 30 women) worsened during the menstrual cycle;
- 4 patients (7%) with photophobia;
- 4 patients (7%) with diffuse migraines;
- 4 patients (7%) with Chronic cough without any pulmonary lesion.
- 3 patients (5.3%) with eyelids edema;
- 2 patients (3.5%) with visual darkness;
- 1 patient (1.8%) with nausea and retching or vomits;
- 1 patient (1.8%) with occipital migraines;
- And other signs and symptoms less frequent.
- Only 4 patients (7%) did not complained about migraines and related signs or symptoms.

In these 57 patients with excessive use of TV or Computer, we found:
- 28 patients (49.1%) presented minimal Optic Nerve’s disks edema;
- 8 patients (14%) presented evident (0.5 dioptre) Optic Nerve’s disks edema;
- From these patients with Optic Nerve’s edemas, 4 (7.0% out of 57) presented white sheaths around the Optic Nerve’s disk vessels.
- 9 patients (15.8%) presented intraocular pressure of 17 mmHg or higher, when examined at the office; out of these 9 patients,
- Only one patient presented intraocular pressure of 22 mmHg or higher.
- 4 patients (7%) were suspects of Glaucoma;
- 3 patients (5.3%) presented incipient Glaucoma;
- 1 patient (1.8%) presented advanced glaucoma;
- 12 patients (21.1%) did not present any of the above Ocular disturbances.

The other Etiologies associated with these 57 patients with excessive use of TV or Computer, were:
- 25 patients (42.9%) with excessive liquid drinks, with an average of 3,300 milliliter daily;
- 23 patients (40.4%) drank caffeine, as coffee, mate, tea or soft drinks.
- 18 patients (31.6%) with excessive soft drinks;
- 8 patients (14%) with beer drinks;
- 5 patients (8.8%) presented shallow eyes anterior chamber;
- 4 patients (7%) with medicaments that raise the fluids pressures;
- 3 patients (5.3%) with wine drinks, one simultaneously drank beer;
- 1 patient (1.8%) with visceral disturbances;
- And other less frequents etiologies.

We conclude that excessive use of computer or TV causes Ocular Hypertension Syndrome with participation of the other two Fluids Hypertension Syndromes.

XI- 16) – Visceral Disturbances:
From the 931 patients with Migraines, in 41 patients (4.4%) they were related with visceral disturbances (Table XII-1). They were 25 women and 16 men, with average age of 46.8 years.

“Migraineurs suffer from gastric stasis both during and outside an acute migraine attack. This may suggest that migraineurs may have an abnormal autonomic function compared to nonmigrainous controls.” (Aurora SK, and others).

We detected that whether and when the liver or other visceral sickness became well, the patients noticed small reduction of their intraocular pressures and the end of their Migraines.

These 41 patients with visceral disturbances complained about:
- 23 patients (56.1%) with wide frontal migraines;
- 13 patients (31.7%) worsened their aches at morning;
- 12 patients (29.3%) with ocular aches;
- 11 patients (26.8%) with occipital migraines;
- 11 patients (26.8%) with eye’s itching or blepharitis;
- 5 women (20% out of the 25 women) worsened during the menstrual cycle;
- 8 patients (19.5%) with eyes redness;
- 8 patients (19.5%) with temporal or head-top (vertex) migraines;
- 6 patients (14.6%) with tearfulness and Rhinitis with coryza (rhinorrhea);
- 6 patients (14.6%) with photophobia;
- 5 patients (12.2%) with nausea and retching or vomits;
- 4 patients (9.8%) with Chronic cough without any pulmonary lesion.
- 3 patients (7.3%) with visual darkness;
- 2 patients (4.9%) with eyelids edema;
- 1 patient (2.4%) with diffuse migraines;
- And other signs and symptoms less frequent.
- Only 2 patients (4.9%) did not complained about migraines and related signs or symptoms.

The other Etiologies associated with these 41 patients with visceral disturbances, were:
- 24 patients (58.5%) with excessive liquid drinks, with an average of 2,800 milliliter daily;
- 19 patients (46.3%) drank caffeine, as coffee, mate, tea or soft drinks.
- 13 patients (31.7%) with coffee, mate or tea;
- 9 patients (22%) with excessive soft drinks;
- 9 patients (22%) with beer drinks;
- 5 women (20% out of 25 women) worsened at menses;
- 7 patients (17.1%) presented shallow eyes anterior chamber;
- 7 patients (17.1%) with medicaments that raise the fluids pressures;
- 2 patients (4.9%) with familial glaucoma;
- 1 patient (2.4%) with excessive use of TV or computer;
- 1 patient (2.4%) with wine drinks and simultaneously beer drinks.

In these 41 patients with Visceral Disturbances, during examination we found the following:
- 21 patients (51.2%) with small edema of the Optic Nerve’s disk,
- 9 patients (22%) with evident (0.5 dioptre or more) edema of the Optic Nerve’s disk;
- 10 patients (24.4%) presented intraocular pressures of 17 mmHg or more;
- 2 patients (4.9%) presented suspicion of glaucoma;
- 7 patients (17.1%) presented incipient glaucoma;
- No patient presented advanced glaucoma;
- Only 3 patient (7.3%) did not present any of the above disturbances.

These visceral disturbances were:
A– Liver and other visceral sickness: these patients said: “I have a liver’s Migraine”. Difficult digestion foods, excess of seasoning, chronic liver or gallbladder sicknesses, all can trigger the Migraines.

We had one patient whose Migraine got better after Gastric ulcer selective vagotomy surgery, peptic ulcer medicament and diet.

B– Colic: We had patients with Migraines related to various kinds of colic.

C– Nourishment Irregularities: We had patients with strong Migraines and raising intraocular pressure, consequent to irregular nourishment or after difficult digestion meals before the sleeping time.

This occurs mainly with shallow eyes’ anterior chamber, and can it be the precedent of an attack of Acute Glaucoma.

- Digestive disturbances, Migraines and intraocular pressure: One of these patients was a white woman, 1.63 meters (5 feet and 4 inches) tall, 56 Kilograms (123 pounds) of weight, who had regularly 14 mmHg of intraocular pressure afternoon, but after heavy meals before sleeping, presented insomnia, 30 mmHg of intraocular pressure in both eyes and strong Migraines at morning. As her eyes resisted to this extraordinary pressure raise, hundreds of times repeated, she only had migraines and no Peak (Normal) tension glaucoma.

We found two possibilities to explain this Optic Nerve resistance, but we cannot prove them:
A- The lamina cribosa was very strong.
B- The Cerebrospinal fluid pressure rose simultaneously, at the other side of the lamina cribosa.

We had other patients with Migraines due to intervals between meals bigger than five hours.
Other authors also found a relation between functional gastrointestinal disorders and migraine (Kurth T, and others). They conclude that upper abdominal symptoms are significantly more frequent in patients with migraine compared with healthy controls; they conclude also that this association suggests common pathological mechanisms.

On “traditional Chinese medicine...” there is “efficacy of herbs for calming liver and suppressing liver-yang in treatment of migraine patients with hyperactivity of liver-yang syndrome”(Zhong G W, and others).

**We suppose that the Migraines secondary to digestive disturbances are consequent to:**

1- The liberation in the body of the fluids retained in the abdomen by the meals digestion, causing an hydrous overload, and
2- The excessive Autonomic Nervous System stimulus, causing the vasoconstriction and vasodilation effect.

These both pathological ways increase the secretion of the Aqueous Humor, the Cerebrospinal fluid and the Inner ears' fluids, raise their pressures and cause the Fluids Hypertension Syndromes.

**We conclude that the visceral disturbances are Etiologies to Migraines**, and the Migraines from other etiologies can cause visceral disturbances, as sneezing, cough, nausea, retching and vomit. We found that caffeine worsens them all.

**XI- 17) – Glaucomatous Familial Inheritance:**

From the 931 migraine patients with some migraine, we found 26 patients (2.8%) who referred Glaucomatous relatives.

**These 26 patients with Glaucomatous Familial Inheritance complained about:**

- 10 patients (39%) with wide frontal Migraines;
- 8 patients (31%) with tearfulness and Rhinitis;
- 8 patients (31%) worsened on awakening;
- 7 patients (27%) with ocular migraines;
- 3 patients (12%) presented nausea and retching or vomits;
- 3 patients (12%) presented eyelids edemas;
- In addition, there were other lesser signs or symptoms.

**- Three generations with Glaucoma and Migraines:** We had three generations of patients from the same family, who presented assorted headaches, migraines, rhinitis, sinusitis, menstrual tension, tearfulness, photophobia, nausea, eyes aches and itching. They were five women, multatas.

The grandmother with 75-year-old, presented open angle glaucoma since her thirties, suffered anti-glaucoma surgeries in both eyes when she had forties, and one eye now is blind.

Two daughters with 44 and 48 years-old, with optic Nerve’s cups right and left eyes of 6/3/1/0 and 0.5/2/1/0 the younger, and 0.8/4/1/0.25 and 0.7/3/0/0.5 the older (Cup diameter/ cup depth/ lamina cribosa pores visibility/ borders edema). The younger is a suspect of glaucoma, but the older has advanced and incipient glaucomas, besides rose Cerebrospinal fluid pressure.

Two grand-daughters with 16 and 21-year-old, both with myopia around 4 dioptre, intraocular pressures of 22 and 24 mmHg the younger, and 18 and 18 mmHg the older. Their Optic Nerve’s cups were 0.3/1/0/0.25 and 0.4/2/0/0.25 the younger, and the older 0.4/2/0/0.25 and 0.8/2/0/0.25. These Optic Nerve’s cups are not glaucomatous yet, but their migraines, elevated intraocular pressures, heredity and all the other alternative signs and symptoms, show their glaucomatous future whether they keep this way.

All of them were drinkers of caffeine, as coffee, caffeinated soft drinks, tea, or caffeinated analgesics. Each one of them also drank 1,500 to 3,000 milliliter of water daily. All of them became better shortening their water and caffeinated drinks, and medicating with anti-glaucoma eye drops.

We found On the examination in these patients with Glaucomatous Familial Inheritance:
- 10 patients (38.5%) with minimal (0.25 dioptre) Optic Nerve’s edema;
- 4 patients (15.4%) with evident ON’ edema;
- 7 patients (26.9%) suspects of Glaucoma;
- 3 patients (11.5%) with incipient glaucoma;
- 2 patients (7.7%) with advanced glaucoma;
- 2 women (7.7%) with 60 and 67-year-old with intraocular pressures of 20/22 and 20/18 mmHg in Right and Left eyes, but without glaucoma.
- Only 1 patient (3.8%) did not present any of the above signs or symptoms.

The increased risk of Migraines in first-degree relatives of Migraine patients has been demonstrated by other authors (Østergaard S, and others).

“These and other data suggest that the genetic contribution to migraine is complex, multifactorial, and subject to significant modification by environmental factors.” (Gardner KL).

“Risk indicators of open-angle glaucoma correlate highly in families, and the patterns are consistent with the hypothesis of genetic determinants of these factors.” (Klein B E K, and others).

We observed occurrence of Migraines and Glaucoma in sons and daughters of Migraines mothers, but our questionnaire did not include this to make a statistic.

**Familial hyper-sensitivity to the caffeine:** We had a nearly black administrative with 35-year-old, two children, suffering with bi-temporal and occipital migraines for years. Sometimes she had nausea. She presented daily back-aches. From 2 weeks until today, she presented aches at her left eye, redness and visual disturbance. She is medicating for arterial hypertension. She takes “omega 6” pills, daily caffeinated analgesics, 1,500 milliliters (3 pints) of juices and water, and caffeinated soft-drinks 1,000 milliliters (33 ounces). On ophthalmological exam, we found Optic Nerve's disks with 0.4/1/0/0 in both eyes, (cup/disk diameter/ cup depth/ lamina cribosa pores visibility/ borders edema) which is physiologic. She presented the left eye with redness, rise of the intraocular pressure of 24 mmHg and deposits at the Descemet membrane, configuring the Posner-Schlosman (glaucomato-cyclitic) syndrome in this eye. We medicated her with cortisone eye drops and stopping all caffeine.

After 1 year she returned all better, without any caffeine, with healthy eyes, intraocular pressures of 14 mmHg (normal), and no more any aches. She came with her two sons, both daily big drinkers (more than 1,000 milliliters) of caffeinated soft-drinks: The older with 13-year-old, suffering for the last 5 years with diabetes type 1 and medicating with insulin and drinking diet-coke. His ophthalmological examination was normal. The younger with 12-year-old, suffering for the last 6 years with brain disrytmia, medicating with carbamazepine, presenting intraocular pressures of 22 mmHg in both eyes, chronically with eyes redness, bi-temporal headaches, and Optic nerves' disks with 5/2/0/0, which still are physiologic.

We prescribed to these two boys to withdraw from caffeine. Does any doctor think that this family sufferings are not consequence of the familial caffeine excessive sensibility and consumption?

Some Familial Migraines and Familial Glaucomas are consequent to the familial bad costumes of drinking excessive water, wine, beer, or caffeine that the parents teach to their children. These Familial Migraines and Glaucomas are nutritional and educational, together with some genetic inheritance.

**- Father with Cerebrospinal Fluid Hypertension and son with Ocular Hypertension Syndromes:**
We had a patient, 53-year-old Mulatto (more Black than Portuguese ancestors), medical doctor, 1.76-meter tall and 112 Kilograms (247 pounds) of weight. He only complained of difficult reading, aches and edemas at both ankles suspected of gouty arthritis. He was drinker of around 4,000 milliliter (1 gallon) of beer, day yes and the other also, besides coffee 200 milliliter (7 fluid ounces). On ophthalmological examination we found the need of eyeglasses, and both Optic Nerves disks show 0.1/1/0/0.75 (cup diameter/ cup depth/ lamina cribosa’s pores/ borders edema), which configures the Cerebrospinal Fluid Hypertension Syndrome. The beer etiology is evident.
His 9-year-old son, who has Indian ancestors from his mother, with 1.41 meters (4 feet and 7 inches) tall, 41 Kilograms (90 pounds) of weight, was a drinker of 600 milliliter (20 fluid ounces) of caffeinated soft drinks daily. He complained about bi-temporal headaches at morning, sneezing, coryza and itching eyes. He also presented itching all over his body, medically denominated as “atopic dermatitis” which worsened each time he drank soft drinks. He presented some on difficult reading at school. On the examination, we found the need of eyeglasses for hyperopia. His Optic Nerve’s disks show 0.6/4/3/0 and 0.7/4/3/0 right and left eyes, which configures suspect and evident glaucomas. As his intraocular pressures show 20 and 16 mmHg, this is a Normal (Peak) Tension Glaucoma. The atopic Neurodermatitis is caused by the caffeine intoxication. The caffeinated soft drink etiology is evident.

Here we have the typical hereditary syndromes changing from one generation to the other, from the Cerebrospinal Fluid Hypertension in the father to the Ocular Hypertension and Glaucoma in his son. In other patients it occurs the vice-versa.

We conclude that there is crossed inheritance from the Glaucoma of the Ocular Hypertension Syndrome, with the Cerebrospinal Fluid Hypertension Syndrome, and vice-versa. We found both syndromes alternation between the successive generations.

XI-18) – Renal stones and excessive water:
We collected 13 patients who presented renal stones actually or in the past, and for preventing new ones, they drank an average of 3.100 milliliter of water daily.

These 13 patients with excessive water drinks consequent to renal stones, complained about:
- 9 patients (69.2%) worst their migraines at morning;
- 8 patients (61.5%) with wide frontal migraines;
- 7 patients (53.8%) with itching eyes or blepharitis;
- 5 patients (38.5%) with ocular migraines;
- 5 patients (38.5%) with tearfulness or Rhinitis with coryza (rhinorrhea);
- 4 patients (30.8%) with occipital migraines;
- 3 patients (23.1%) with photophobia;
- And other lesser signs and symptoms.
  Only one man did not complained of any sign or symptom.

The Etiologies associated these 13 patients with renal stones, were:
- 7 patients (53.8%) with excessive liquid drinks, with an average of 3,100 milliliter daily;
- 7 patients (53.8%) with excessive soft drinks;
- 3 patients (23.1%) with coffee, mate or tea;
- 3 patients (23.1%) with beer drinks;
- 2 patients (15.4%) presented shallow eyes anterior chamber;
- 2 patients (15.4%) with medicaments that raise the fluids pressures;
- 2 patients (15.4%) with wine drinks, and 1 simultaneously drank beer.
- 2 patients (15.4%) with familial glaucoma;
- 0 patient (0%) with excessive TV or computer;
- No one women (0% out of 8 women) worsened at menses.

These 13 patients with renal stones presented On the examination:
- 2 patients (15.4%) suspects of glaucoma;
- No patient with incipient glaucoma;
- 2 patients (15.4%) with advanced glaucoma;
- 9 patients (69.2%) with minimal Optic Nerves' borders edema;
- 2 patients (15.4%) with evident Optic Nerves' borders edema.
As caffeine is an etiology to the renal stones, we conclude that more than half of these patients were causing their own stones by caffeinated drinks. As the patients also drink too much water for the inefficient prevention of new stones, they worsen their migraines and glaucomas by both ways.

This is a medical prescription to the patients suffering with Hypercalciuria and kidney stones:

“Dietary Treatment Guidelines:

- Limit daily calcium intake to 600-800 mg/day unless otherwise instructed.
- Limit dietary oxalate, especially when calcium intake is reduced. High oxalate levels are found in strong teas, nuts, chocolate, coffee, colas, green leafy vegetables (eg, spinach), and other plant and vegetable products.
- Avoid excessive purines and animal protein.
- Reduce sodium (salt) and refined sugar to the minimum possible.
- Increase dietary fiber (12-24 g/d).
- Limit alcohol and caffeine intake.
- Increase fluid intake, especially water (sufficient to produce at least 2 L of urine per day).” (Leslie SW)

Even this recommendation to water drink is limited to produce 2 Liters of urine per day, and include a dietary limitation to tea, chocolate, coffee, colas and caffeine intake.

XI- 19) – Emotional Stress:

It caused the raise of intraocular pressure and consequent Migraines some hours after the stress or at the next morning.

We had six Migraine patients, five men and only one woman, with this Emotional Stress etiology. Their average age was 41.8 years.

These six patients with Emotional Stress also presented other etiologies together with this one:
- 5 patients (83%) drinking excessive water daily.
- 4 patients (67%) drinking coffee (3 patients) or tea (1 patient);
- 2 patients (33%) drinking caffeinated soft drinks, besides the coffee they drank;
- 1 patient (17%) drinking medicaments that raise the fluids pressures;
- 1 patient (17%) drinking beer.

These six patients with Emotional Stress migraines, complained about:
- 3 patients (50%) with ocular migraines;
- 3 patients (50%) with temporal or head-top (vertex) migraines;
- 2 patients (33%) worsen their migraines at morning;
- 1 patient (17%) with occipital migraines, diagnosed as Muscle Contraction (Tension) Migraine.
- 1 patient (17%) with wide frontal migraines;
- 1 patient (17%) with photophobia;
- 1 patient (17%) with nausea and retching and vomiting;
- 1 patient (17%) with eyes redness;
- 1 patient (17%) with miosis in both eyes.

These patients with Emotional Stress presented On the examination:
- 3 patients (50%) with minimal (0.25 dioptre) Optic Nerves’ borders edema;
- 2 patients (33%) with evident (0.5 dioptre) Optic Nerves’ borders edema;
- 1 of the above patients (16%) also with suspicion of glaucoma;
- 1 patient (16%) with incipient Glaucoma.
- No patient was without any of the above pathologies.

We suppose that the physical stress which causes the Uhthoff phenomenon on the Multiple Sclerosis patients is similar to the emotional stress. Probably, the excess of Adrenaline (Epinephrine) and its toxicity causes both of them.
The Uhthoff phenomenon: “The Uhthoff phenomenon is an exacerbation of the patient's symptoms when exercising or when exposed to temperature change. The most notable symptoms affected by the Uhthoff phenomenon are transient visual obscurations, dyschromatopsia, and contrast sensitivity changes. The symptoms tend to resolve with restoration of euthermic conditions. Most symptoms of the Uhthoff phenomenon resolve from within 60 minutes to 24 hours.” (Lee AG and Costello F).

We conclude that Emotional Stress migraines affect mainly men.
We conclude that in all men with Migraines and emotional stress, there was relation with excessive drinks of water or caffeine. The only patient without this relation was the only woman.
We conclude that the neck muscle contraction is a reaction to the occipital (Tension) Migraines.

Below we present the etiologies of the Fluids Hypertension Syndromes and respective migraines and diseases, which we did not make statistics about them:

XI- 20) – After cranial damage (only for the Cerebrospinal Fluid Hypertension Syndrome) (Intracranial hypertension - Benign intracranial hypertension):
On these 1,270 patients, we had only two patients, one post-meningitis with migraines, and one post-cerebral vascular stroke with Optic Nerves borders giant edema, which are denominated as Pseudotumor cerebi or Benign intracranial hypertension.
As the Cerebrospinal Fluid Hypertension Syndrome, as the caffeine, both can cause an ischemic Cerebrovascular accident, denominated as ischemic stroke. (See below Chapter XIII – Brain and Spinal chord).
On another groups we had patients with Benign Intracranial Hypertension after years of occurrence of meningitis, cerebral hemorrhages, ischemic and traumatic cranial damage. Probably they are consequent to the Dural sinus thrombosis (Brain venous thrombosis).
These patients were very difficult to reduce their Optic Nerve’s disk edemas and Migraines with the treatment.

XI- 21) - Sleeping with one arm over the eyes, or with the head over the arm:
A very rare etiology to the Normal (Peak) Tension Glaucoma that affect less than 1 patient between 1,000 is sleeping with the light or TV set open, and consequently for protecting the eyes from the light, unconsciously resting one arm and forearm over the eyes all night. This is a spontaneous and natural eyes protection from light when sleeping. The weight of the arm compressing the eyes causes very big glaucomatous damage in both eyes, and the intraocular pressure is normal (or low) at the physician’s office. These patients otherwise are healthy, and do not have any other sickness or etiology. It is a pure Low (Peak) Tension Glaucoma in both eyes, found unexpectedly in a young person without any complaint. This damage progresses with only a little discomfort at awakening, because it occurs during the sleeping hours, and it causes big glaucomatous damage in both eyes.

During the last 35 years of ophthalmology, we observed the occurrence of this Normal (Peak) Tension Glaucoma with few variations, in children and young adults, usually men, at four situations:
1 - Sleeping on the bed alone in a room, and nobody closing the light, TV set or the computer when the tired patient falls asleep. We observed this in young people from medium to high social classes that allows one child to stay alone in his room every night, with the light open.
2 - Sleeping in a collective room with the lights on.
3 - Sleeping seated down and bending forward, with the head pressing the eyes over the arm on the table. We observed this in students who read until tired, and sleep seated down. We observed this also on young scouts sleeping seated down over the ground, embracing both folded legs on the knees and the eyes on the arm, all night, around the open fire.
4 – Sleeping at prone position (face straight down), with the head pressing the eyes over the pillow. We only had two patients with this bad habit, because it is a difficult position to sleep.

On the year 2.005, we did not have any patient with this rare Normal (Peak) Tension Glaucoma etiology.
Juvenile Glaucoma, water, caffeine and sleeping with one arm over the eyes: We had one 14-year-old boy, white, 1.73 meters (5 feet and 8 inches) tall, 63 Kilograms (138 pounds), complaining of wide frontal, head’s top and occipital aches at evenings. He used to drink water 4,000 milliliter and some guaraná daily.

He presented Panic Disorder months ago. On ocular examination we found intraocular pressures of 20 and 18 mmHg right and left eyes (moderately high), wide anterior chambers (physiologic), and Optic Nerves’ disk cups of 0.8/3/1/0 and 0.8/3/2/0 (cup’s diameter/ cup’s depth/ lamina cribosa’s pores visibility/ borders edema), which we classify as advanced glaucoma. He had eyeglasses prescribed by other ophthalmologist, but we found that he had good visual acuity without any necessity of eyeglasses.

We medicated him with anti-glaucoma eye drops and restriction of water and guaraná drinks. He came to consultation each 2 to 3 months, and after one year, he return with intraocular pressures of 16 and 14 mmHg, but with little increases of his Optic Nerves’ cups. Asking to his father, we discovered that he was accustomed to sleep with the light open at his room and with one arm over the eyes for light protection. This is an example of the association of three etiologies of “Normal” (Peak) Tension Glaucoma: Excessive water, caffeine, and sleeping with the arm over the eyes. It is typical that the patient does not perceive this, and only asking to a relative who lives with him it is possible to discover it.

Normal Tension Glaucoma and sleeping with TV set open: We had a 20-year-old white miss, 1.57 meters (5 feet and 2 inches) tall, 47 Kilograms (103 pounds), arterial pressure 11/7, who came with diagnosed glaucoma since 12-year-old, visual fields with scotomas and Optic Nerve’s stereo-photos showing increased cup-disk ratios. She used daily Prostaglandin eye drops and Haloperidol by mouth for “nervousness”. She presented Optic Nerve’s disk cups of 0.7/3/3/0.25 right eye and 0.5/3/3/0.25 left eye (cup-disk diameter/cup depth/ lamina cribosa’s pores visibility/ borders edema). She complained of eyes and heads migraines, photophobia, tearfulness, and rhinitis. She drank guaraná and coffee daily, and beer at weekends. She presented with astigmatism in both eyes, but her eyeglasses were wrong with negative cylinders, and a careful refraction show us that she needed positive cylinders.

We prescribed her do not drink beer or soft drinks, the correct eyeglasses, to maintain the eye drops and stop the Haloperidol. She returned after 6 months, with the same complaints. She had stopped the caffeine and beer drink and the Haloperidol, was correctly using the eye drops, her intraocular pressure were 10 and 14 mmHg, and the ophthalmoscopy shows that her right eyecup increased to 0.8/3/3/0. She was not using her eyeglasses, and after asking her activities we discovered that she daily works 6 hours with computer; she frequents 4 hours of school, she watches 2 hours of TV, she ate a brief dinner and watches more 2 hours of TV until fall asleep with the TV set open. She probably puts one arm over her eyes when sleeping, but she is not sure about it. We prescribed her to use her eyeglasses, to stop the TV excessive hours and to shut off the TV set before sleeping, but without much chance to be obeyed.

Irregular sleep:
Sleeping too much, sleeping less than the necessary and interrupted sleep caused intraocular pressures raises, Migraines and Normal (Peak) Tension Glaucomas. We had some patients with these etiologies, but we did not make statistics on them.

Lumbar (dural) puncture (spinal tap) and Spontaneous intracranial hypotension:
The lumbar (dural) puncture (spinal tap) suddenly lowers the Cerebrospinal fluid pressure. It immediately causes relative excess of intraocular pressure and respective Optic Nerve’s disk squeeze. The consequences are migraines and headaches from the Ocular Hypertension Syndrome, and neural aches and brain disturbs caused by the sagging of the brain in the skull, mainly when the patient stands up. This endures until the Dura mater perforation caused by the hypodermic needle closes, which occurs in few days, but it can last many years (Baerentzen F O, and Mathiesen O). This occlusion can be achieved by a blood patch out-side the perforation. The cerebrospinal fluid’s hypotension can cause cranial nerve’s damage, mainly in the ocular nerves, which last many months to recover, if it does.
This also can be spontaneous: “Spontaneous intracranial hypotension is due to cerebrospinal fluid leakage, usually in the area of the cervical or upper thoracic spine, often without a clear etiology.” (Frank L R and others).

The intracranial hypotension causes orthostatic headache, until it is cured, usually after epidural blood patches. Frequently it is misdiagnosed.

We did not have patients with these two Migraines etiologies.

XI- 24) - Ocular compression during ophthalmological surgeries and exams: We had patients whose Optic Nerve’s cups worsened after hospitalization, when they were submitted to ocular surgeries or treatments. Some ocular surgeries (Cataract, Refractive, Vitrectomy, and others) cause high rises of the intraocular pressure, during some minutes. This ocular hypertension causes Low (Peak) Tension Glaucoma.

“The results of this study indicate a significant statistical variation on the values (of the retinal fibers layer) out of GDx Scanning System after cataract surgery.” (Translated from Portuguese). (Prata Jr, J A, and others).

“The ophthalmological physicians must be conscious that the refractive surgery introduced new kinds of glaucoma and the re-establishing of old ones.” (Translated from Portuguese). (Guttmann C).

“The average intraocular pressure under the Hansatome suction ring (for refractive surgery) was 89 mmHg, while on the ACS was 88 mmHg.”(Translated from Portuguese). (Nakano K and others).

“Patients of the LASIK surgery group presented thickness reduction of the retinal neural fibers layer at post-surgery examinations.”(Translated from Portuguese). (Flank M and others).

Using the Femtosecond laser for refractive surgery, the intraocular pressure during this compression reach the unbelievable value of 328 mmHg. (Strohmaier C, and others).

“There is a possibility of dramatically raising the Intra-Ocular Pressure during (ophthalmic) surgery, especially in complicated cases requiring prolonged manipulation and/or forcible deepening of the Anterior Chamber with viscoelastic.” (Gouws P, and others).

In the beginning of every Cataract surgery, the surgeons compress the eyes during some minutes, in order to make easier and better the surgery. Some doctors use manual compression on the patient’s eye. Other doctors use a pneumatic instrument or a especially designed weight to compress the eye. They cause an acute ischemic damage in the retina, just like an acute glaucoma.

“In adult rats, during acute Intraocular Pressure (IOP) elevation, functional changes progress from the proximal to the distal retina. Alterations in ganglion-cell-related ERG potentials occurred at intracocular pressures 30-50 mmHg. Repeated intraocular pressure spikes above this level may cause permanent, nonspecific damage, perhaps via ischemic mechanisms.” (Bui B V, and others).

XI- 25) – Medicaments and over-hydration to hospitalized patients: We had patients that worsened their glaucomas, consequent to the medicament or to vigorous hydration during some hospitalized period. It is common to keep hospitalized patients excessively hydrated with two or more liters (66 fluid ounces or more) of intravenous solutions each day, which causes intraocular pressure peaks. The physicians are concerned to avoid dehydration in hospitalized patients, but do not worry about overhydration. Therefore, they cause Peak Tension Glaucomas on the patients and nobody knows it.

“Overhydration is an abnormal increase of total body water - Overhydration frequently occurs among patients in fluid therapy (overhydration of iatrogenic origin). In the brain and the muscles this intracellular overhydration causes headache, disorientation, increased spinal pressure, coma and muscle cramps.” (Poul-Erik Paulev).

During the permanence in the hospital, there is no control of the patient’s intraocular pressures. Some usual medicament given to the hospitalized patients are psychotropic, vasodilators and corticosteroids, which raise their intraocular pressures. Consequently, the “Normal tension” (actually a Peak Tension) Glaucoma worsen without detection or correct medicament on time. Whether the hospitalized patient complains about headaches, he receives analgesics and sedatives to stop complaining.

We conclude that the Normal (Peak) Tension Glaucoma can worsen consequent as to ophthalmological surgeries and exams, as to over-hydration and medicaments to hospitalized patients.
XI- 26) – Dehydration: hemodialysis headache.

We did not have these patients, but the description of their symptoms coincides with the Inner Ears’ Hypertension Syndrome:

“Vertex location, bilateral headache, dull nature, and moderate severity were the most prevalent features of hemodialysis headache.” (Goksel B K, and others).

The pathophysiology probably is the different timing between the Cerebrospinal Fluid’s and the Inner Ears lymph’s dehydration, with consequent different timing of their pressures ups and downs, caused by the hemodialysis. The consequences are the Inner Ears’ headaches (temporal migraines or hemi-cranias).

XI- 27) - Racial (Ethnic) and physical predispositions to the Fluids Hypertension Syndromes:

a- We observed increased tendency to suffer from the Fluids Hypertension Syndromes on some ethnic groups and people borne physically stronger. We suspect that their ancestors suffered extreme thirst conditions in the past, and at that time only survived those individuals most water-independent, whose metabolism was extremely economical about water. Their actual descendants inherited this capacity of living, drinking only less than 1,000 milliliter (two pints) of water daily, plus the water-contained in the food. To these water-economic people, drinking a few more water or only one cup of coffee daily, it was too much and made them sick with migraines, rhinitis, and other variants from the Fluids Hypertension Syndromes. They were extremely sensitive to beer and wine: drinking 10 fluid ounces of beer was too much.

We conclude that the inheritance of a stronger or resistant body causes higher sensibility to the Fluids Hypertension Syndromes and to the caffeine, wine and beer intoxication. Many migraines suffered by historical famous people could be consequent to this extreme sensibility to the Fluids Hypertension Syndromes. These patients, in order to live without these sicknesses, can only drink one small water glass when feel thirst, and no caffeine, beer or wine.

As at Brazil most people are racially mixed, we perceived this water-economical and caffeine high sensibility in some Mulatto (Mestizo) patients with Black and Indian ancestors, and in “Nordestinos”, who are descendants from people who lived and survived on Brazilian chronically dry areas.

b- Racial proneness to glaucoma: As there are differences on the Optic Nerve's disks square millimeters areas between the various human races, there are also differences between the total grams pressures on the nerves' disks, even with the same intraocular pressure measured with mmHg.

Example: An intraocular pressure of 22 mmHg means 0.2991 grams per square millimeter. On a small disk of 2.15 square millimeters of area, 22 mmHg means a pressure of 0.643 grams on the optic disk. On a bigger disk of 2.55 square millimeters of area, the same 22 mmHg means a bigger pressure of 0.763 grams on the disk. This difference between the grams pressures on the Optic Nerves' disks with the same intraocular pressures, makes the inherited bigger disks more prone to the glaucomatous optic neuropathy. (Table XI-4).

This makes any Optic Nerve small disk more resistant to the glaucoma. As people with hyperopia have smaller Optic Nerve's disks, they are more resistant to the glaucoma.

<table>
<thead>
<tr>
<th>Pressure units</th>
<th>Racial disk area square mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>mmHg</td>
<td>White-American 2.15 mm</td>
</tr>
<tr>
<td>760</td>
<td>10.3323</td>
</tr>
<tr>
<td>22</td>
<td>0.2990</td>
</tr>
<tr>
<td>16</td>
<td>0.2175</td>
</tr>
</tbody>
</table>

Table XI-4: Grams pressures on the Optic Nerves' disks in accordance with their square millimeters areas. The racial disks' areas are from Seider M I, and others.

We concluded that bigger Optic nerve's disk area means bigger grams pressure on the disk and
proneness to glaucoma.

“Racial differences in the normal optic disc are present among urban Americans, and these differences must be considered in evaluation of the optic disc for glaucoma and other optic neuropathies.” (Varma R, and others).

“Age-adjusted prevalence rates for primary open-angle glaucoma among blacks ranged from 1.23% in those aged 40 through 49 years to 11.26% in those 80 years or older, whereas rates for whites ranged from 0.92% to 2.16%, respectively.” (Tielsch J M, and others).

Doshi V, and others, studying “Latinos 40 years and older from 6 census tracts in La Puente, California”, found “… increasing age, Native American ancestry, unemployed status, and family history of glaucoma were found to be independent factors for increased risk of ocular hypertension.”

**c- Racial denominations:** When we denominate a patient as “Black”, “Indian”, “Mulatto”, “Brazilian White”, “Mestizo”, or “White”, we are referring to apparent physical characteristics, as relative skin colors and some genetic inheritance. At Brazil, these expressions do not signify racial purity. We did not classify our patients by race because we did not want to, and because on the Brazilian racially mixed people it is impossible to classify correctly anyone by race. We do not have racial statistics.

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**- Curing Migraines and dizziness caused by caffeine, contraceptive and excessive water:** We had a 16-year-old beautiful mulatta, with Indian, Negro, Portuguese, and Italian ancestors, complaining of wide frontal Migraines. On the examination she presented myopia (-2.25 and -2.50 dioptre right and left eyes) and on ophthalmoscopy we found Optic Nerves’ disks with 0.2/1/0/0.25 and 0.2/1/0/0.5 right and left eyes (cup diameter/ cup dept/ lamina cribosa’s pores visibility/ borders edema). After two years, she came again in order to do new eyeglasses, and complaining from increased left frontal migraines and occasional dizziness. She was 1.65 meters (5 feet and 5 inches) tall, 53 Kilograms (116 pounds), was breast-feeding her seven months baby, uses contraceptive medicament, and drank daily caffeinated soft drinks 600 milliliter, water and fruits juices 3,000 milliliter. On the examination, we found the same myopia and Optic Nerve’s disks with 0.1/1/0/0.75 and 0.1/1/0/1 right and left eyes.

This is a well-defined Cerebrospinal Fluid Hypertension Syndrome, beginning the Benign Intracranial Hypertension, with frontal migraines and dizziness. As she could not shorten the liquids drank because the baby is breast-feeding, nor stop the contraceptives, we instructed her to stop the soft drinks with caffeine, which made better her headaches and dizziness.

**XI- 28) - Fasting:** After many hours of fasting, there can be two occurrences which can cause migraines:

A – Whether the fasting includes abstinence from all drinks and water, there is lowering of both the intraocular and the cerebrospinal fluid pressures. As they have different timing, the equilibrium between these pressures is disturbed, one higher than the other. This results in stretching the Optic Nerves’ lamnas cribosas in both eyes, and they ache as headaches. This occasional headache caused by the shortening of water is a fluid hypotension, usually it does not cause any sicknesses as the Fluids Hypertension Syndromes.

B – The fasting of food causes hypoglycemia, which causes low energy in the ocular and cerebral neurons, which results in a vasodilation, which also causes migraines by the Cerebrospinal fluid hypertension.

“We conclude that fasting is a strong headache precipitator, especially among chronic headache sufferers. It is usually nonpulsating and nonlateralized.” (Mosek A and Korczyn A D).

**XI- 29) – Cardiac Patent Foramen Ovale (Ostium Secundum Atrial Septum Defect) and Pulmonary arterio-venous malformation:**
“Our findings confirm previous observations of a link between migraine with aura, cluster headache, and patent foramen ovale. From 260 patients with migraine with aura, 161 patients (61.9%) were patent foramen ovale-carriers. The association was independent on the frequency of migraine attacks and complexity of aura.” (Dalla Volta G, and others).

“Patients with migraine and patent foramen ovale had higher frequency of atrial septum aneurism than those with patent foramen ovale and no migraine (75 vs 30.2%), and the relative risk to carry double interatrial septal abnormalities was 2.5”. (Martin S, and others).

As migraines with auras are linked with patent foramen ovale, and migraines with auras also are linked with the Cerebrospinal Fluid hypertension or the Ocular hypertension syndromes, we concluded that the patent foramen ovale is one etiology of the Fluids Hypertension Syndromes.

The same pathophysiology of the Cardiac Patent Foramen Ovale also occurs with the Pulmonary arterio-venous malformation causing migraines.

“A 32-year-old woman with episodes of severe migraine with aura, deep vein thrombosis and recurrent epistaxis, presented with two episodes of stroke... with... a patent foramen ovale. She was found to be positive for the Factor V Leiden mutation. The patent foramen ovale was closed percutaneously. However, a substantial right to left shunt of 14% persisted. Pulmonary angiography revealed multiple arterio-venous malformations... The arterio-venous malformations were embolized and... her episodes of 'migraine' also improved dramatically following the closure of the patent foramen ovale and the embolization of the arterio-venous malformations.” (Nightingale S and Ray G S).

The probable pathophysiology is described at the following chapter XII) – Pathophysiology of Ocular, Cerebrospinal and Inner Ear Fluids Hypertension Syndromes.

The patient with patent foramen ovale is lifelong prone to suffer the signs, symptoms and sicknesses of the Fluids Hypertension Syndromes, more than other people without this cardiac damage.

It is possible to cure many patients with migraines, surgically closing their patent foramen ovale: “In patients with migraine with aura, percutaneous patent foramen ovale closure reduced the frequency of migraine attacks by 54% per month, and in patients with migraine without aura by 62% per month. Patent foramen ovale closure did not have an effect on headache frequency in patients with nonmigraine headaches.” (Schwerzmann M, and others).

We suppose that the same curative effect can happen on some patients with glaucoma, some brain diseases, and on many other fluids hypertension diseases, only occluding the patent foramen ovale in the patients. Is it possible to prevent its occurrence?

The etiologies that are already known for the patent foramen ovale, are:
- Consanguineous marriage.
- Maternal smoking. (Källén K).
- Congenital heart disease among parents.
- Maternal alcohol consumption during the first trimester of pregnancy.
- Maternal exposure to chemicals at work during the first trimester of pregnancy.
- Fever (greater than or equal to 38 degrees C) during early pregnancy. (Tikkanen J and Heinonen O P).
- Paternal age younger than 20 years and older than 35 years. (Olshan A F, and others).

Because the migraines happen so when the fluid pressures rise, and so when the fluid pressures reduce, there are patients with patent foramen ovale without migraines, who develop migraines after their foramen occlusion:

“There are paediatric patients with atrial septal defect who may dramatically develop migraine symptoms with or without aura following percutaneous correction of their defect.” (Fernandez-Mayoralas D, and others).
XI- 30) – Obstructive Sleep Apnea Syndrome: The chronic airways obstruction causes respiratory insufficiency when sleeping. This causes low oxygen (O2) (hypoxia) and excessive carbonic gas (CO2) in the lungs and in the arterial blood. This causes arterial vasodilation in the brain and in the eyes, with consequent blood serum exudation, resulting in Cerebrospinal and Ocular fluids pressures rising, causing glaucoma when sleeping and migraines at awakening. This is a pathophysiology similar to the cardiac patent foramen ovale. There is no aura because the patient is sleeping during the hypoxia.

“Awakening headaches are associated with obstructive sleep apnea. These headaches are of brief duration, and their occurrence and severity increase with increasing obstructive sleep apnea severity. Treatment of obstructive sleep apnea with continuous positive airway pressure or uvulopalatopharyngoplasty can reduce these headaches.” (Loh N K, and others).

The Cerebrospinal Fluid Hypertension disturbs the nerves that control the respiratory system, and it worsens the Obstructive Sleep Apnea. The Obstructive Sleep Apnea also causes the Cerebrospinal Fluid Hypertension. This is a vicious cycle that can cause definitive damage, as in the brain and as in the eyes.

XI- 31) – Aging: From all the above statistics, it is evident that the Fluids Hypertension Syndromes are age-dependent, because:
- The aches and most other signs and symptoms are stronger on the youth people, and with aging they fade away.
- Many drinkers from beer, wine, caffeine or excessive water tolerate them well for many years, but with aging, one day the intolerance arises or increases, and from that date on the drinks can cause the Fluids Hypertension Syndromes or the caffeine poisoning.
- Most damage is slowly progressive, and only become or is perceived as sicknesses after many years of progression. There are many small glaucomatous damage (glaucomatous Optic neuropathy) that still have not the size to be denominated as Glaucoma. After more some years, whether the damage increases, then it will be classified as Glaucoma. However, the sickness has begun many years before the classification. Under the effect of a strong etiology, anyone patient can present the respective sickness suddenly, at any age.

Typical is the age evolution of the signs and symptoms from the beer intolerance:
- On teenagers and at the twenties, the main manifestation of beer drinks is hangover.
- After some more years, beer drinks cause red eyes and headaches.
- After the fifties, the main manifestations are tearfulness, neck pain, cluster and tension migraines.
- After more some years of beer drinks, the result is the glaucoma.

Aging is an etiology that we cannot control, and it is associated with every other etiology. The signs and symptoms of the Fluids Hypertension Syndromes that happen mainly in aged people are denominated by some doctors as “late-life migrainous accompaniments”.

We surely would like it, but it is still impossible to say to the patient “You turn yourself younger 20 years from now”. I want to be younger again, too.

We conclude that aging is an etiology to the Fluids Hypertension Syndromes and to the caffeine intolerance, which reduces the signs and symptoms and increases the definitive damage and sicknesses.

XI- 32) – Very low arterial pressure when sleeping or in surgeries:

When the patient is sleeping, whether the blood arterial pressure falls too much, and the perfusion pressure becomes lower than the intraocular pressure, it can cause an ischemic “low-tension” glaucomatous damage. This is one etiology to glaucoma, and not to the fluid's hypertension.

“Patients who had visual field loss progression showed significantly lower nocturnal blood pressure variables, with the dips of the systolic, diastolic, and mean arterial pressure significantly larger. They also had a greater history of disk hemorrhages. The nocturnal reduction in blood pressure may, therefore, be an additional risk factor in glaucoma patients”. (Graham S L, and Drance S M).
Similar ischemic damage can happen in the brain, whether the blood perfusion pressure falls too much, to values lesser than the Cerebrospinal fluid pressure.

**XI- 33) – Vasoconstrictors, vasodilators, and others:** The following etiologies, besides others, can cause cranial vasodilation, or initial vasoconstriction followed by a rebound vasodilation, and consequent migraines and headaches:

1) Adrenaline (Epinephrine); it is the main stress hormone: it is a vasoconstrictor.
2) Alcoholic (ethanol) drink: it is a vasodilator, and in high doses it causes arterial diastolic hypertension.
3) Analgesics: Most of them have caffeine, which is a vasoconstrictor, in the tablet. The caffeine withdrawal causes brain vasodilation.
4) Amphetamines: they are vasoconstrictors.
5) Caffeine: it is a brain vasoconstrictor.
6) Calcitonin gene-related peptide (CGRP) causes dilatation of the cranial middle meningeal artery.
7) Carbachol: it is a cholinomimetic agonist, a cranial vasodilator.
8) Cardiac patent foramen ovale and pulmonary arterio-venous malformation: they cause vasodilation.
   Their surgical closure can cause vasoconstriction and migraines after the surgery.
9) Cocaine: It is a strong vasoconstrictor. It causes much more lesions than the caffeine.
10) Cortisone (a stress hormone): it retains water and raises the fluids’ pressures.
11) Diving: it can cause breath with few oxygen and excessive carbonic gas; both are brain vasodilators.
12) Ergots: They are vasoconstrictors. They are used to medicate migraines.
13) Fasting: It decreases the blood glucose and the arterial pressure, which cause vasodilation.
14) Ginkgo biloba: It is a vasodilator.
15) Hemo-dialysis: it causes vasodilation.
16) High altitude without oxygen mask: It causes breath and blood with few oxygen, which is a brain vasodilator. The headache of the tourists at Machu-Pichu is well known.
17) Histamine: It liberates Nitric oxide from the vascular endothelium. It is a vasodilator.
18) Hypercapnia from any origin: It causes excessive carbonic gas in the blood, which is a vasodilator.
19) Hypoxia from any origin: It causes blood with few oxygen, and it is a brain vasodilator.
20) Magnesium deficiency?
22) Nasal vasoconstrictors: They cause the constriction of the arteries that nourish the Optic Nerve, worsening the “Low-tension glaucoma”.
23) Nitric oxide, nitrites, nitrates (in preserved meats), nitroglycerin, glyceryl trinitrite, isosorbide: They are vasodilators.
24) Opioids: they are vasodilators.
25) Phosphodiesterase type 5 inhibitors (Sildenafil, Vardenafil, Tadalafil: Erectile dysfunction drugs): They are retinal and brain vasodilators.
26) Pituitary adenylate cyclase activating peptide-38: it is a vasodilator.
27) Serotonin (5-hydroxytryptamine): It is a vasoconstrictor. During a migraine attack, the Serotonin from the thrombocytes is released to the blood serum: “In 63 migraine patients...During the interictal period, serotonin granules per 100 blood thrombocytes were 469.3 +/- 22.4, which was not significantly different from the level in healthy subjects (447.9 +/- 19.6). At the peak of attacks, serotonin contents decreased to 47.7 +/- 7.4, while the dissolved serotonin concentration, conversely, increased to 345.5 +/- 39.1 ng/ml (compared with serum serotonin levels of 184.2 +/- 12.3 ng/ml in healthy subjects). After migraine attacks, thrombocyte serotonin levels returned to baseline.” (Izzati-Zade K F).
28) Sympathectomy, cervical: It causes cranial vasodilation.
29) Triptans: They are vasoconstrictors. They are used to medicate migraines.
30) Tyramine and Phenylethylamine: They are vasodilators in patients with low levels of phenolsulfo-transferase P.
31) Vasoactive intestinal peptide: It is a cranial vasodilator, but after sympathectomy it is a vasoconstrictor.
32) Vasoactive neuropeptides: Substance P. Neurokinin A. They are vasodilators.

The headaches caused by these above etiologies are denominated as Disorders of homeostasis, medicaments overuse or Withdrawal headaches. They can cause ocular and brain vascular disturbs, exudation of fluids and consequent Fluids' Hypertension headaches. Some of them, mainly the vasoconstrictors, initially improve the headaches, and after some hours the rebound vasodilation worsens the headaches: they are treacherous. The most common is the caffeine, which is a vasoconstrictor.

The physiological vasoconstriction when breathing pure oxygen (O2) does not cause migraines: “The constriction of retinal vessels occurring in response to breathing 100% oxygen was studied in 10 normal subjects over a period of 30 min. The mean arteriolar constriction was 15.3% and venous constriction 21.8%. Time constants (the time for 95% of the maximal response to have occurred) were 2.25 min and 2.37 min for arterioles and veins respectively.” (Hague S, and others). This vasoconstriction breathing O2 is used to medicate migraines. (see Therapy).

XI- 34) – Incomplete posterior Circle of Willis: “Patients undergoing 3-dimensional time of flight magnetic resonance angiography...The posterior Circle of Willis was graded as complete when both posterior communicating arteries and the P1 segments of the posterior cerebral artery were present on visual examination and incomplete when one of these vessels was missing... Incomplete posterior Circle of Willis was significantly more common in migraineurs than in the control group (49% vs 18%)...Incomplete posterior Circle of Willis was the sole independent factor associated with migraine (OR: 6.5). No difference was found between migraineurs with and without aura.” (Bugnicourt J M, and others).

XI- 35) – High resistance wind instrument playing: Analyzed at chapter XII.

XI- 36) – Sirsasana (Shirshásana) (headstand) yoga posture: Analyzed at chapter XII.

XI- 37) – Tight neckties: Analyzed at chapter XII.

XI- 38) – Valsalva maneuver: Analyzed at chapter XII.

XI- 39) – Weight lifting: Analyzed at chapter XII.

XI- 40) - Queckenstedt test. Analyzed at chapter XII.

XI- 41) – Sleeping with a small pillow. We had some patients with migraines or glaucoma, who referred worsening at morning when they sleep with a small pillow. They noted that when using a big pillow they were better at awakening. A big pillow, provided that it does not disturb the breathing, causes the head been a little above the body, and this causes a reduction in all fluids' pressures in the head. We did not made statistics about this.

XI- 42) - Other Etiologies of the Fluids Hypertension Syndromes: There are other etiologies and personal susceptibilities to the Migraines, to glaucoma, to Benign Intracranial Hypertension and to the Inner ear’s fluids sicknesses. All etiologies acting together are the cause of the dissimilarities found on the patients, and even between one and the other eye in the same patient.

We never had patients with Fluids Hypertension Syndromes caused by Vitamin “A”, Tetracycline, or moderate amount of cheese: only with the wine that usually goes along with the cheese.

We never had cigarette smoking as a direct etiology of the Fluids Hypertension Syndromes. It was only an indirect etiology, because cigarette smoking is a stimulant to coffee drinks, and coffee is a strong etiology to the three Fluids Hypertension Syndromes.
The gestational hormones must have some relation with the fluids retention and consequently with the Fluids' Hypertension Syndromes, but we did not have enough pregnant women to study them.

XI- 43) – Statistics about Etiologies of the Cerebrospinal Fluid Hypertension Syndrome (Benign Intracranial Hypertension’s Migraines) (Intracranial hypertension without papilledema) (Pseudotumor cerebri):

From the 931 patients with some migraine, sign or symptom, we selected those with at least one eye with 0.5 dioptre or more edemas in the Optic Nerve’s borders. Out of these patients with evident Benign Intracranial Hypertension, we found the following etiologies (Table XI-5):

<table>
<thead>
<tr>
<th>Etiologies for the Cerebrospinal Fluid Hypertension Syndrome (Migraines and Benign Intracranial Hypertension)</th>
<th>Our Patients with Migraines</th>
<th>Benign Intracranial Hypertension</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Etiologies</td>
<td>Total = 100%</td>
<td>Average Ages Years</td>
</tr>
<tr>
<td>Total</td>
<td>931</td>
<td>38.7</td>
</tr>
<tr>
<td>1. Cranial sicknesses</td>
<td>2</td>
<td>58.5</td>
</tr>
<tr>
<td>2. Stress</td>
<td>6</td>
<td>41.9</td>
</tr>
<tr>
<td>3. Caffeinated soft drinks</td>
<td>327</td>
<td>30.4</td>
</tr>
<tr>
<td>4. Migraines with Menses</td>
<td>95</td>
<td>33.4</td>
</tr>
<tr>
<td>5. Beer</td>
<td>267</td>
<td>42.2</td>
</tr>
<tr>
<td>6. Water &gt;1.500 milliliter</td>
<td>470</td>
<td>36.7</td>
</tr>
<tr>
<td>7. Coffee, mate or tea</td>
<td>273</td>
<td>41.9</td>
</tr>
<tr>
<td>8. Worsened at morning</td>
<td>295</td>
<td>40</td>
</tr>
<tr>
<td>9. Visceral sicknesses</td>
<td>41</td>
<td>46.8</td>
</tr>
<tr>
<td>10. medicaments</td>
<td>102</td>
<td>47</td>
</tr>
<tr>
<td>11. Wine</td>
<td>71</td>
<td>47.1</td>
</tr>
<tr>
<td>12. Renal stones Water&gt;2.000ml</td>
<td>13</td>
<td>44.4</td>
</tr>
<tr>
<td>13. Familial Glaucoma</td>
<td>26</td>
<td>38.3</td>
</tr>
</tbody>
</table>

Table XI-5: Etiologies of the Benign Intracranial Hypertension with Migraines in our patients. Each patient could present one or more etiologies simultaneously.

We conclude that all the above etiologies caused Benign Intracranial Hypertension, besides the migraines, variants, signs, symptoms and glaucoma they cause.
- Sensibility to Caffeine and Migraines: Cerebrospinal Fluid Hypertension Syndrome. We had a 32-year-old secretary, no child, white, with all ancestors from Portugal. She had 1.71 meters (5 feet and 7 inches) tall, weighting 68 kilograms (150 pounds). She was complaining from relapsing monthly Migraines in both eyes and at frontal area with auras, right superior eyelid trembling, photophobia, nausea, retching and vomits. All of these sufferings worsened at menses, with Premenstrual tension. She was daily drinker of only 1,000 milliliters (two pints) of water, which is physiologic, and 300 milliliters (10 fluid ounces) of Guaraná. On ophthalmological exam, we found all “normal” in her eyes, no glasses needs, intraocular pressures of 16 and 17 mmHg right and left eyes (which are physiologic), and physiologic deep anterior chambers. She presented mild both inferior eyelids edemas. On direct ophthalmoscopy, she presented Optic Nerves’ disks with 0.2/1/0.5 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the Cerebrospinal Fluid Hypertension Syndrome, which explains all her symptoms. We found strange all of those sufferings caused by so little caffeine, but prescribed her to stop it. After 11 months, she came back to another exam, with a mild infection at her right upper eyelid. We asked about all the other sufferings, and she answered, “She cured all of that”, only stopping the caffeinated soft drink.

- Curing all aches (caused by caffeine and excessive water) at one time: We had a 42-year-old white man, 1.83 meters (6 feet) tall, 125 Kilograms (275 pounds) of weight, fine plastic arts teacher. He was complaining of aches in his eyes when reading or working; aches at upper nose, bi-temporal and occipital on awakening; backaches, obstructive rhinitis and aches on his left knee at any hour. He also presented occasional darkening of his right side of vision, for some seconds each time. He was drinking coffee 700 milliliter (one and a half pint), mate 1,500 milliliter (near half gallon) and water 3,900 milliliter (more than a gallon) daily. On the examination, we found that he needed eyeglasses for near vision; he presented intraocular pressures of 16 and 16 mmHg (physiologic) and physiologic anterior chambers. His Optic Nerves on direct ophthalmoscopy presented 0.5/3/1/0.25 at both eyes (cup diameter/ cup depth/ Lamina cribosa's pores visibility/ borders edema). All of this configures a Cerebrospinal Fluid Hypertension Syndrome (even with small Optic Nerve’s borders edema), together with some Ocular Hypertension Syndrome. We prescribed his new eyeglasses, to stop all caffeine, and to reduce the excessive water drank. After one month, he returned 2 Kilograms (4.4 pounds) lighter and without any of the previous symptoms, to show us his new eyeglasses. His intraocular pressures were 14 and 14 mmHg, a little smaller than before. As he cured from all complaints, he probably will only needs medical advice again when he will need new eyeglasses again.

We conclude that all the above Risk Factors can raise the Intraocular, Cerebrospinal fluid and Inner ears fluids’ pressures. When the patient has two or three risk factors together, they cause the migraines of the Fluids Hypertension Syndromes, and so they become Etiologies.

The Caffeine effect on the Cerebrospinal Fluid Hypertension Syndrome Migraines:
As caffeine was the main migraine’s etiology in our patients, in order to detect its influence in the Cerebrospinal Hypertension Syndrome, we made the same above statistic removing all patients that drank any amount of caffeine, as in coffee, tea, or soft drinks.
We found (Table XI-6):

<table>
<thead>
<tr>
<th>Cerebrospinal Fluid’s Hypertension Syndrome</th>
<th>Patients with Optic Nerve’s Borders Edema from all etiologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migraines, Variants, Signs and Symptoms</td>
<td>Only with 0.25 dioptre of Optic Nerve’s edema</td>
</tr>
<tr>
<td></td>
<td>0.5 dioptre or more of Optic Nerve’s edema</td>
</tr>
<tr>
<td>No.</td>
<td>Condition Description</td>
</tr>
<tr>
<td>-----</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1.</td>
<td>Patients with edema of one or both Optic Nerve’s disks borders</td>
</tr>
<tr>
<td>2.</td>
<td>Patients with any Migraine, sign or symptom</td>
</tr>
<tr>
<td>3.</td>
<td>Patients without any migraine</td>
</tr>
<tr>
<td>4.</td>
<td>Wide Frontal Migraine</td>
</tr>
<tr>
<td>5.</td>
<td>Worsened at morning</td>
</tr>
<tr>
<td>6.</td>
<td>Rhinitis with coryza (rhinorrhea) and Tearful (added)</td>
</tr>
<tr>
<td>7.</td>
<td>Itching eyes and Blepharitis (added)</td>
</tr>
<tr>
<td>8.</td>
<td>Temporal or Head-top (vertex) Migraines</td>
</tr>
<tr>
<td>9.</td>
<td>Ocular ache or weight</td>
</tr>
<tr>
<td>10.</td>
<td>Worsened at menses</td>
</tr>
<tr>
<td>11.</td>
<td>White sheaths at the Optic Nerve’s disk vessels</td>
</tr>
<tr>
<td>12.</td>
<td>Eye redness (Eye Erythema)</td>
</tr>
<tr>
<td>13.</td>
<td>Occipital Migraine</td>
</tr>
<tr>
<td>14.</td>
<td>Photophobia (light sensitivity)</td>
</tr>
<tr>
<td>15.</td>
<td>Nausea and retching or vomit or colic</td>
</tr>
<tr>
<td>16.</td>
<td>Dizziness - vertigo</td>
</tr>
<tr>
<td>17.</td>
<td>Cough (chronic)</td>
</tr>
<tr>
<td>18.</td>
<td>Eyelids edema</td>
</tr>
<tr>
<td>19.</td>
<td>Sneezing</td>
</tr>
<tr>
<td>20.</td>
<td>Obstructive Rhinitis (Nasal congestion or Nasal stuffiness)</td>
</tr>
<tr>
<td>21.</td>
<td>Diffuse Migraine</td>
</tr>
<tr>
<td>22.</td>
<td>Visual perturbation for minutes - Amaurosis fugax</td>
</tr>
<tr>
<td>23.</td>
<td>Middle forehead Migraine (Ethmoid)</td>
</tr>
<tr>
<td>24.</td>
<td>Bulbar sub-conjunctival hemorrhage</td>
</tr>
<tr>
<td>25.</td>
<td>Otitis (chronic)</td>
</tr>
<tr>
<td>26.</td>
<td>Buzzing</td>
</tr>
<tr>
<td>27.</td>
<td>Maxillary (cheekbone) aches</td>
</tr>
<tr>
<td>28.</td>
<td>Somnolence (excessive)</td>
</tr>
<tr>
<td>29.</td>
<td>Visual Aura. Fortification spectra.</td>
</tr>
<tr>
<td>30.</td>
<td>Miosis (bilateral)</td>
</tr>
</tbody>
</table>
31. Pharyngitis or Hoarseness
3 (0.6%)  2 (0.6%)  1 (0.4%)  1 (1.1%)

32. Eyelids twitching (trembling)
2 (0.4%)  1 (0.3%)  0 (0%)  0 (0.0%)

33. Blinks excessively
1 (0.2%)  0 (0.0%)  1 (0.4%)  0 (0.0%)

34. Bulbar sub-conjunctival cystic edema
1 (0.2%)  1 (0.3%)  0 (0%)  0 (0.0%)

35. Mandible aches (pain)
0 (0%)  0 (0.0%)  1 (0.4%)  0 (0.0%)

<table>
<thead>
<tr>
<th>Adding all migraines, signs and symptoms</th>
<th>1,243</th>
<th>532</th>
<th>651</th>
<th>191</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average migraines, signs and symptoms per patient</td>
<td>2.31/patient</td>
<td>1.71/patient</td>
<td>2.68/patient</td>
<td>2.01/patient</td>
</tr>
<tr>
<td>Intraocular pressure’s range</td>
<td>10 – 28 mmHg.</td>
<td>10 – 28 mmHg.</td>
<td>10 – 26 mmHg.</td>
<td>10-24 mmHg</td>
</tr>
</tbody>
</table>

Table XI-6: Migraines, Variants, Signs and Symptoms presented by patients with minimal (0.25 dioptre) and evident (0.5 dioptre or more) Optic Nerve’s borders edema from Cerebrospinal Fluid Hypertension Syndrome, from all etiologies, and all except caffeine.

With the above statistic, we see that without caffeine, the occurrences of most migraines, signs and symptoms from the Cerebrospinal Fluid Hypertension Syndrome are lesser. Caffeine is an etiology to the Cerebrospinal Fluid Hypertension Syndrome that increases the quantities of patients and the frequencies of almost all their sufferings.

We conclude that caffeine is an etiology that increases the number of patients and the frequencies of migraines, signs and symptoms that these patients suffer from the Cerebrospinal Fluid Hypertension Syndrome. Caffeine is a strong worsening factor for more than 400 signs, symptoms and sicknesses.

XI- 44) – Obesity is a fake etiology for the Cerebrospinal Fluid Hypertension Syndrome (Benign Intracranial Hypertension’s Migraines) (Intracranial hypertension without papilledema) (Pseudotumor cerebri):

Obesity is not an etiology. Obesity is a co-morbidity with the elevated intracranial pressure. There are many other co-morbidities together with them. The patient that drinks too much and cause the Cerebrospinal Fluid Hypertension, also can eat too much and becomes obese. As the bariatric surgeries as the diets are efficient to reduce the excessive foods together with the excessive drinks, and cure these both sicknesses (fluids' hypertension and obesity) together with many other co-morbidities:
“Pseudotumor cerebri (also denominated idiopathic intracranial hypertension), a known complication of severe obesity, is associated with severe headaches, pulsatile tinnitus, elevated cerebrospinal fluid pressures, and normal brain imaging. Twenty-four severely obese women underwent bariatric surgery—23 gastric bypasses and one laparoscopic adjustable gastric banding. Cerebrospinal fluid pressures were 324±83 mm H2O. Additional problems included peripheral visual field loss, trigeminal neuralgia, recurrent Bell's palsy, and pulsatile tinnitus. Spontaneous cerebrospinal fluid rhinorrhea occurred in one patient, and hemiplegia with homonymous hemianopsia developed as a complication of ventriculoperitoneal shunt placement in another. There were two occluded lumboperitoneal shunts and another functional but ineffective lumboperitoneal shunt. Additional obesity comorbidity in these patients included degenerative joint disease, gastroesophageal reflux disease, hypertension, urinary stress incontinence, sleep apnea, obesity hypoventilation, and type II diabetes mellitus. RESULTS: At 1 year after bariatric surgery, 19 patients lost an average of 45±12 kg, which was 71±18% of their excess weight... associated with resolution of headache and pulsatile tinnitus in all but one patient within 4 months of the procedure. The cranial nerve dysfunctions resolved in all patients. The patient with cerebrospinal fluid rhinorrhea had resolution within 4 weeks of gastric bypass... Additional resolved associated comorbidities were 6/14 degenerative joint disease, 9/10 gastroesophageal reflux disorder, 2/6 hypertension, and all with sleep apnea, hypoventilation, type II diabetes mellitus, and urinary incontinence.” (Sugerman H J, and others).

Every person has some drinks limit: We had a beautiful white patient, 25 year-old, call-center operator, no child, 1.63 meters (5 feet and 5 inches) tall, and 52 kilograms (115 pounds) of weight. She was complaining about years of right-sided daily migraines at afternoon that she self-medicated with two tablets of over-the-counter caffeinated analgesic daily taken together. She also complained about obstructive rhinitis during all the day that forced her to use nasal drops daily. All these sufferings worsened at menses. She also complained about occasional Labyrinthitis, and sometimes she sees “all dark” for one minute, and needs to lie down to become well. She was using contraceptive tablets. Her boyfriend stimulated her to drink 500 milliliters (one pint) of Vodka and four bottles of 80 mg of caffeinated soft drink each one (adding up 320 mg), at Thursdays, and again at Saturdays, for the last two years. She also loved to drink water: 14 cups of 500 milliliters (one pint) each one during the day, more one entire bottle of 2,000 milliliters (67 fluid ounces) at night, which amounts to 9,000 milliliters (two and a half gallon) of water daily, for more than the last 5 years. On ophthalmological exam, we found almost all normal, no need of glasses, deep physiologic anterior chambers, and intraocular pressures of 14 mmHg (physiologic) in both eyes. On direct ophthalmoscopy she only presented 0.5/3/1/0.25 and 0.6/3/1/0.25 right and left eyes (cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which is a suspect of Normal Tension Glaucoma in her left eye, and minimal, probably physiologic Cerebrospinal fluid pressure. We have no way to examine her inner ears conditions, to verify the Inner Ears' Hypertension Syndrome that probably she has.

Here we see a person without any inherited susceptibility and with perfect health, but drinking so much, her inner ears and her eyes now are forewarning her about the future sicknesses that can occur. Whether she stops the drinks now, she will cure all signs and symptoms and become free from the Migraines and its variants. Alternatively, she will sustain the drinks habits and suffer many more years of Migraines and variants, until suffer the definitive damage from the Fluids Hypertension Syndromes. Even a perfectly inherited person has some drinks limits in order to keep her health.

XI-45) — Comparison between six main etiologies and respective migraines, signs, symptoms and sicknesses:

To clarify the differences between six main etiologies and their respective migraines, signs, symptoms and sicknesses, between the 1,270 patients we purified those patients with only six main etiologies, each one alone, and confronted them. Even the patients without any complaint were included in this table.

We excluded 894 patients that present more than one etiology, or none of these etiologies.
From all the 1,270 patients, we selected the patients that drank only one pure etiology, without any other etiology.

We selected to this table:
- 152 patients that drank only caffeine, as coffee, soft drinks, tea, mate, etc.
- 98 patients that drank only 1,500 milliliter or more, of liquids daily.
- 95 patients that drank only beer.
- 9 patients that drank only wine.
- 21 patients with only excessive use of TV or computer.
- 6 patients who only referred familiar inheritance of glaucoma.

We found the Table XI-7 that we divided in pieces:

<table>
<thead>
<tr>
<th>Migraines, Signs, and Symptoms</th>
<th>All Etiologies together</th>
<th>Caffeine alone</th>
<th>Liquids &gt;1,500 ml/day</th>
<th>Beer alone</th>
<th>Wine alone</th>
<th>Excessive TV or Computer</th>
<th>Familiar glaucoma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patients</strong></td>
<td>1,270 (100%)</td>
<td>152 (100%)</td>
<td>98 (100%)</td>
<td>95 (100%)</td>
<td>9 (100%)</td>
<td>21 (100%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td><strong>Men (%)</strong></td>
<td>498 (39.2%)</td>
<td>43 (28.3%)</td>
<td>23 (23.5%)</td>
<td>66 (69.5%)</td>
<td>4 (44%)</td>
<td>9 (43%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>Women (%)</strong></td>
<td>772 (60.8%)</td>
<td>109 (71.7%)</td>
<td>75 (76.5%)</td>
<td>29 (30.5%)</td>
<td>5 (56%)</td>
<td>12 (57%)</td>
<td>6 (100%)</td>
</tr>
<tr>
<td><strong>Average age (years)</strong></td>
<td>38.7</td>
<td>30.3</td>
<td>35.7</td>
<td>41.1</td>
<td>57.2</td>
<td>26.2</td>
<td>50.2</td>
</tr>
<tr>
<td><strong>Without complaints</strong></td>
<td>339 (26.7%)</td>
<td>13 (8.6%)</td>
<td>4 (4.1%)</td>
<td>22 (23.2%)</td>
<td>0 (0%)</td>
<td>4 (19%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td><strong>1. Wide Frontal migraines</strong></td>
<td>376 (29.6%)</td>
<td>49 (32.2%)</td>
<td>37 (37.8%)</td>
<td>23 (24.2%)</td>
<td>3 (33%)</td>
<td>8 (38%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>2. Migraines that Worst at Morning</strong></td>
<td>295 (23.2%)</td>
<td>47 (30.9%)</td>
<td>24 (24.5%)</td>
<td>18 (18.9%)</td>
<td>2 (22%)</td>
<td>2 (10%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>3. Rhinitis, coryza and tearfulness</strong></td>
<td>252 (19.8%)</td>
<td>38 (25.0%)</td>
<td>29 (29.6%)</td>
<td>16 (16.8%)</td>
<td>0 (0%)</td>
<td>2 (10%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>4. Blepharitis, Itching eyes</strong></td>
<td>238 (18.7%)</td>
<td>31 (20.4%)</td>
<td>29 (29.6%)</td>
<td>13 (13.7%)</td>
<td>2 (22%)</td>
<td>2 (10%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>5. Temporal and Head-top migraines</strong></td>
<td>193 (15.2%)</td>
<td>38 (25.0%)</td>
<td>18 (18.4%)</td>
<td>5 (5.3%)</td>
<td>0 (0%)</td>
<td>1 (5%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>6. Ocular aches (pain)</strong></td>
<td>187 (14.7%)</td>
<td>20 (13.2%)</td>
<td>18 (18.4%)</td>
<td>11 (11.6%)</td>
<td>2 (22%)</td>
<td>4 (19%)</td>
<td>2 (33%)</td>
</tr>
<tr>
<td><strong>7. Ocular Hyperemia (Episcleritis)</strong></td>
<td>153 (12.0%)</td>
<td>18 (11.8%)</td>
<td>8 (8.2%)</td>
<td>13 (13.7%)</td>
<td>2 (22%)</td>
<td>4 (19%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>8. Occipital Migraines and Stiff Neck</strong></td>
<td>134 (10.6%)</td>
<td>20 (13.2%)</td>
<td>11 (11.2%)</td>
<td>8 (8.4%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>9. Photophobia (light sensitivity)</strong></td>
<td>124 (9.8%)</td>
<td>18 (11.8%)</td>
<td>17 (17.3%)</td>
<td>10 (10.5%)</td>
<td>1 (11%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>10. Menstrual Migraines(Tension)</strong></td>
<td>95 (12.3%) (from 772 women)</td>
<td>15 (13.8%) (from 109 women)</td>
<td>11 (14.7%) (from 75 women)</td>
<td>4 (13.8%) (from 29 women)</td>
<td>120% (from 5 women)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td><strong>11. Eyelid Edema</strong></td>
<td>83 (6.5%)</td>
<td>9 (5.9%)</td>
<td>14 (14.3%)</td>
<td>4 (4.2%)</td>
<td>1 (11%)</td>
<td>0 (0%)</td>
<td>1 (17%)</td>
</tr>
<tr>
<td><strong>12. Nausea, Vomit, and Colic</strong></td>
<td>78 (6.1%)</td>
<td>12 (7.9%)</td>
<td>7 (7.1%)</td>
<td>1 (1.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>13. Dizziness – vertigo</td>
<td>65 (5.1%)</td>
<td>8 (5.3%)</td>
<td>7 (7.1%)</td>
<td>1 (1.1%)</td>
<td>2 (22%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>-------------------------</td>
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</tr>
<tr>
<td>14. Chronic Cough</td>
<td>62 (4.9%)</td>
<td>9 (5.9%)</td>
<td>5 (5.1%)</td>
<td>3 (3.2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>15. Chronic Sneezing</td>
<td>55 (4.3%)</td>
<td>9 (5.9%)</td>
<td>6 (6.1%)</td>
<td>1 (1.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>16. Diffuse Migraine</td>
<td>55 (4.3%)</td>
<td>13 (8.6%)</td>
<td>7 (7.1%)</td>
<td>7 (7.4%)</td>
<td>1 (11%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>17. Obstructive Rhinitis (congestion)</td>
<td>44 (3.5%)</td>
<td>12 (7.9%)</td>
<td>4 (4.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>18. Visual darkening (Amaurosis fugax)</td>
<td>39 (3.1%)</td>
<td>2 (1.3%)</td>
<td>5 (5.1%)</td>
<td>0 (0%)</td>
<td>2 (22%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>19. Ethmoid (upper nose) migraines</td>
<td>26 (2.0%)</td>
<td>6 (3.9%)</td>
<td>3 (3.1%)</td>
<td>2 (2.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>20. sub-conjunctival bulbar Hemorrhage</td>
<td>13 (1.0%)</td>
<td>1 (0.7%)</td>
<td>3 (3.1%)</td>
<td>1 (1.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>21. Ear migraines “Otitis”</td>
<td>10 (0.8%)</td>
<td>2 (1.3%)</td>
<td>2 (2.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>22. Visual Aura</td>
<td>10 (0.8%)</td>
<td>1 (0.7%)</td>
<td>1 (1.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>23. Somnolence</td>
<td>9 (0.7%)</td>
<td>0 (0.0%)</td>
<td>1 (1.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>24. Buzzing, Deafness</td>
<td>8 (0.6%)</td>
<td>0 (0.0%)</td>
<td>2 (2.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>25. Miosis in both eyes</td>
<td>8 (0.6%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>1 (1.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>26. Maxillary aches</td>
<td>7 (0.6%)</td>
<td>2 (1.3%)</td>
<td>0 (0.0%)</td>
<td>2 (2.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>27. Twitching eyelids (trembling)</td>
<td>6 (0.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>28. Chronic Hoarseness, Pharyngitis</td>
<td>4 (0.3%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>29. Excessive blinking</td>
<td>4 (0.3%)</td>
<td>1 (0.7%)</td>
<td>0 (0.0%)</td>
<td>1 (1.1%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>30. Mandible aches</td>
<td>3 (0.2%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>31. Conjunctival bulbar cystic edema</td>
<td>3 (0.2%)</td>
<td>0 (0.0%)</td>
<td>3 (3.1%)</td>
<td>0 (0.0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

| Total of Migraines, signs and symptoms felt by the patients | 2,639 (208.3%) | 381 (251.5%) | 272 (278.3%) | 145 (153.3%) | 19 (211%) | 23 (110%) | 8 (133%) |
| Average Migraines, signs and symptoms per patient | 2.08 | 2.51 | 2.72 | 1.53 | 2.11 | 1.1 | 1.33 |

<table>
<thead>
<tr>
<th>Signs and Sicknesses</th>
<th>All Etiologies together</th>
<th>Caffeine alone</th>
<th>Liquids &gt;1.500 ml/day</th>
<th>Beer alone</th>
<th>Wine alone</th>
<th>Excessive TV or Computer</th>
<th>Familiar glaucoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>32. Papilledema 0.25 dioptre</td>
<td>539 (42.4%)</td>
<td>72 (47.4%)</td>
<td>48 (49.0%)</td>
<td>45 (47.4%)</td>
<td>2 (22%)</td>
<td>8 (38%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>
### Table XI-7

| 33. Papilledema 0.5 dioptre or bigger | 243 (19.1%) | 44 (28.9%) | 21 (21.4%) | 19 (20.0%) | 1 (11%) | 2 (10%) | 1 (17%) |
| 34. peri-vascular white sheaths at ON’ Disk vessels | 108 (8.5%) | 15 (9.9%) | 9 (9.2%) | 12 (12.6%) | 1 (11%) | 0 (0%) | 1 (17%) |
| 35. Intraocular pressure 17 - 21 mmHg | 189 (14.5%) | 21 (13.8%) | 20 (20.4%) | 8 (8.4%) | 0 (0.0%) | 1 (5%) | 1 (17%) |
| 36. Intraocular pressure >21 mmHg | 81 (6.4%) | 2 (1.3%) | 9 (9.2%) | 8 (8.4%) | 3 (33%) | 0 (0%) | 1 (17%) |
| 37. Lamina cribosa pores visualization 1 | 192 (15.1%) | 18 (11.8%) | 21 (21.4%) | 13 (13.7%) | 2 (22%) | 5 (24%) | 0 (0%) |
| 38. Lamina cribosa pores visualization 2 | 151 (11.9%) | 20 (13.2%) | 18 (18.4%) | 12 (12.6%) | 0 (0%) | 2 (10%) | 3 (50%) |
| 39. Lamina cribosa pores visualization 3 | 45 (3.5%) | 8 (5.3%) | 3 (3.1%) | 4 (4.2%) | 0 (0%) | 1 (5%) | 0 (0%) |
| 40. All Lamina cribosa pores visualization | 388 (30.6%) | 46 (30.3%) | 42 (42.9%) | 29 (30.5%) | 2 (22%) | 8 (38%) | 3 (50%) |
| 41. Glaucoma suspect C/D 0.6 | 105 (8.3%) | 9 (5.9%) | 9 (9.2%) | 8 (8.4%) | 0 (0%) | 2 (10%) | 1 (17%) |
| 42. Glaucoma incipient C/D 0.7 | 84 (6.6%) | 11 (7.2%) | 9 (9.2%) | 4 (4.2%) | 2 (22%) | 1 (5%) | 1 (17%) |
| 43. Glaucoma advanced C/D 0.8 | 30 (2.4%) | 2 (1.3%) | 1 (1.0%) | 3 (3.2%) | 0 (0%) | 0 (0%) | 0 (0%) |
| 44. Glaucoma advanced C/D 0.9 | 16 (1.3%) | 0 (0.0%) | 3 (3.1%) | 1 (1.1%) | 1 (11%) | 0 (0%) | 0 (0%) |
| 45. Glaucoma advanced C/D 1.0 | 7 (0.6%) | 0 (0.0%) | 1 (1.0%) | 0 (0.0%) | 0 (0%) | 0 (0%) | 0 (0%) |
| 46. All Glaucomas | 242 (19.1%) | 22 (14.5%) | 23 (23.5%) | 16 (16.9%) | 3 (33%) | 3 (14%) | 2 (33%) |

Table XI-7, divided in pieces: Comparison between six main etiologies purified, and respective migraines, symptoms, intraocular signs and sicknesses they cause.

Analyzing this table above, we conclude:

a- All etiologies, each one alone, caused nearly the same frequencies of the same migraines, signs, symptoms and sicknesses, with the following exceptions (in bold):

b- Caffeine alone was the most frequent etiology to all patients.

c- Beer was the most frequent etiology for men.

d- Excessive water drank was the most frequent etiology for women.

e- Caffeine alone caused the highest frequencies of:

- Obstructive rhinitis,
- Temporal and head-top migraines,
- Papilledema 0.5 dioptre or bigger.

It also caused the second higher frequency of

- Rhinitis with coryza.

f- Excessive water alone (>1,500 milliliter/day) caused the highest frequencies of
- Rhinitis with coryza,
- Blepharitis, Itching eyes,
- Photophobia (Light sensitivity),
- Sub-conjunctival bulbar hemorrhage,
- Ear migraines “Otitis”,
- Buzzing, deafness,
- Conjunctival bulbar cystic edema,
- Complaints (2.72) per patient,
- Glaucoma advanced C/D 1.0. It also caused the second higher incidences of Temporal and head-top migraines,
- Eyelid edema,
- Intraocular pressure from 17 up to 21 mmHg,
- Lamina cribosa pores visualization 2,
- All Lamina cribosa pores visualization,
- Glaucoma advanced C/D 0.9, and
- All Glaucomas.
g- Beer alone caused the highest frequencies of patients with
  - Maxillary aches,
  - Glaucoma advanced C/D 0.8.
  Beer also caused the second higher frequency of
  - peri-vascular white sheaths at ON’ Disk vessels.
h- Wine alone, and older average aged patients, were related with the highest frequencies of
  - Ocular Hyperemia,
  - Amaurosis fugax,
  - Intraocular pressure >21 mmHg,
  - Glaucoma incipient C/D 0.7,
  - Glaucoma advanced C/D 0.9, and
  - All Glaucomas (frequency similar to the glaucomatous familiar inheritance).
i- Excessive TV or Computer alone, presented the highest frequencies of
  - Lamina cribosa pores visualization 1,
  And the second higher frequencies of
  - Ocular Hyperemia (Episcleritis),
  - Glaucoma suspects C/D 0.6.
j- Familiar glaucoma inheritance alone, caused the highest frequencies of
  - Ocular aches,
  - Eyelid edema,
  - Peri-vascular white sheaths on Optic Nerve’s Disk vessels,
  - Intraocular pressure >16 mmHg,
  - Lamina cribosa pores visualization grade 2,
  - All Lamina cribosa pores visualization, Glaucoma suspect C/D 0.6, and
  - All Glaucomas (frequency similar to the wine alone).
  - It also caused the second higher frequency of Glaucoma incipient C/D 0.7.

We conclude that those 6 above etiologies, each one alone or together with other, can cause the migraines, signs, symptoms and sicknesses, from the Ocular Hypertension and the Cerebrospinal Fluid Hypertension.

Excessive TV or computer use caused mainly Ocular Hypertension signs and symptoms, and did not cause too much glaucoma because they happen in the younger age group.

Inheritance of glaucoma caused many Ocular Hypertension signs, symptoms and glaucomas as expected, but also caused Cerebrospinal Fluid Hypertension Syndrome.
XI – 46) - Migraines’ Triggers (precipitating factors): When the fluids pressures are high, anyone from many small stimuli can trigger the Migraine’s aches, as rising their pressures, as reducing them, as because the allodynia. The trigger is the drop that spills the glass; but the glass must be filled up to the brim for the triggers action.

Many etiologies are confounded as triggers. Triggers that are not etiologies, are: cheese, ice creams, orange, tomato, onion, touching some head points, Aspartame. The Monosodium glutamate is an etiology, and is also a trigger.

- **Sexual activity can be a trigger, an etiology, or a therapy.** When the fluids are at a high pressure caused by other risk factors, at the excitement of the sexual activity and orgasm the patient (mainly man) can involuntarily retain the breath and do the Valsalva maneuver, raising abruptly the venous, the intraocular (and cerebrospinal fluid?) pressures. These elevated pressures can cause momentary strong headache (intercourse headache). So, it can be a trigger and also an etiology, but only when the patient has other etiologies acting simultaneously. It occurs more in patients that usually suffer with other headaches and migraines, as found by Frese A and others.

The resolution of this sexual migraine is ease: immediately sitting or standing up and breathing with amplitude, easily releasing the retained air. This finishes the Valsalva maneuver, decreases the venous and the fluids pressures in the head, and stops the headache in one minute. Meanwhile, the regular sexual activity, with or without orgasm, lowers the fluid pressures and is a therapy to prevent migraines.

- **Valsalva maneuver:** The Valsalva maneuver is a strong etiology to migraines and to glaucoma. It is detailed below, at the chapter Pathophysiology.

- **Aspartame:** Few authors declare that Aspartame has carcinogenic properties (Soffritti M and others), it causes a brain toxic effect with Methanol-Formaldehyde, and it disturbs the Glutamate in the blood (Roberts H J). Most studies confound its signs, symptoms and sicknesses with those of caffeine, because usually people drink both together in coffee and “diet” sodas.

Most authors show that Aspartame is harmless. There are thousands of studies showing the caffeine toxicity. Most of our patients use coffee, maté, guaraná, chocolate and colas with sugar; very few drink them with aspartame, and we did not detected any difference in their sicknesses.

We conclude that Aspartame can trigger migraines, disturbing the glutamate, but we can not prove it.

We conclude that all triggers cause nothing in the same patient with the fluids’ pressures on their physiological state.

XI – 47) - Migraines triggered by the withdrawal of the etiologies: We must not confound the triggers with the etiologies. Caffeine, estrogens, wine, beer, and excessive water drank, are etiologies of migraines and headaches because they rise the fluids’ pressures. Their withdrawal cause the reduction of the fluids’ pressures, but with different times in each closed space, and this differences between the lowering pressures also trigger the aches. Even the reduction of the drank water can cause headaches. Other doctors denominated this headaches worsening followed by improvement, as a "tilde pattern".

Therefore, some people conclude that to avoid the withdrawal migraines they must drink these etiologies everyday, and perhaps many times each day, for life along. To avoid the headaches from caffeine withdrawal, these patients drink caffeine many times a day. To avoid hangover, they drink the alcoholic beverage every-day. This is a dependence (or addiction). Although the patient’s body is very resistant, one day the migraines, variants, or some definitive damage sprouts.

When the migraine or headache has multiple etiologies, the withdrawal of one overused medicament (caffeinated analgesic, triptan, ergot) can cause a “withdrawal headache” mixed with the “normal” headache, with variable duration. The withdrawal caffeine headache usually endures one week.

**Headaches, Migraines and body aches (pain),** lasting for one week as a rule, with the interruption of caffeine use for more than 8 hours. These are the main caffeine’s withdrawal symptoms on the dependent (or addicted) patient. They are caused by the acute disturbs in the Cerebrospinal fluid pressure and in the intraocular pressure with the caffeine withdrawal.

Don't you believe that you are addicted to caffeine? Stop its use, and at the next day your headache will show you.
Our duration record was a 30 year-old teacher Brazilian white, 1.56 meter tall (5 feet and 1 inch), 69 kilograms (152 pounds), with beginning of glaucoma. After withdrawal of her daily 20 fluid ounces of colas, some chocolate, and 10 fluid ounces of coffee, she felt very strong back aches for 14 days, which made her impossible to walk, and forced her to stay home and search 2 times the emergency department. After 3 months, she was still recovering with few back aches. Caffeine causes really a strong addiction.

XI – 48) – Conclusions of this chapter:

We conclude that the same etiologies cause in some patients the rise of the Cerebrospinal Fluid pressure with consequent Migraines and Benign Intracranial Hypertension, and in other patients cause the rise of the intraocular pressure and consequent Migraines and Glaucoma. What pressure will raise more and what pathology will occur, it depends from the patient’s susceptibility.

We conclude about the Etiologies of the Fluids Hypertension Syndromes:
- Each etiology can cause different pathologies.
- Different etiologies can cause the same pathology.
- Most etiologies are common to all Fluids Hypertension Syndromes.
- Few etiologies are exclusive to only one Fluid Hypertension Syndrome.
- Seldom one etiology alone causes the fluids hypertension.
- Each patient can have one or more etiologies simultaneously.
- Two or more etiologies simultaneously have their pathogenic effect amplified.
- The etiologies’ intensity effect over the Fluids Hypertension Syndromes depends on the patient’s inherited or acquired susceptibility.

We cure our patients removing the etiologies from their daily lives. After the first week of withdrawal migraines, the fluids’ pressures are on their physiological level, the triggers do nothing forever, and we do not need to care about them, or migraines, or other sicknesses or therapies any more. The patient cures! It is good, is not it?
XII) – Pathophysiology of the Ocular, Cerebrospinal and Inner Ears Fluids Hypertension Syndromes:

Contents:

a) The body's inelastic closed spaces pathophysiology.
b) Vascular constriction and rebound dilatation pathophysiology.
c) Vascular dilatation pathophysiology.
d) Substance “P” and caffeine.
e) Excessive water drinks cause acute fluids' exudation (Serum capillary transudation).
f) Sleeping causes 3 distinct etiologies to the fluids' hypertension.

**Scheme XII-1:** The belly and inferior part of the body retain water (in blue) when awake, standing up or seated down, caused by the gravity force.

g) Blood hypoxia causes cerebrospinal fluid’s hypertension.
h) Caffeine reduces the cerebral blood flow. Caffeine withdrawal, excessive carbonic gas and visual stimulation increase the cerebral blood flow.
i) Caffeine increases the cerebrospinal fluid production.
j) Caffeine causes aseptic neuritis and ophthalmoplegic migraine.
k) Caffeine causes intraocular aqueous secretion and outflow disturbances.
l) Caffeine increases the dopamine receptors in the brain, which causes migraines.
m) Chronic digestive intoxication causes migraines and neurological disorders.
n) Beer, wine, caffeine, excessive epinephrine and cortisone cause fluids’ exudation and edemas.
o) Brain hypoxia and excessive Glutamate cause Cortical Spreading Depression, Auras and migraine. The Chinese Restaurant Syndrome.
p) Auras and Prodromes of Migraine.
q) Only one etiology alone seldom is enough.
r) Alldynia, neural referred (reflex) pain, neuropathic pain, muscle tenderness, other signs and symptoms.
s) Cardiac patent foramen ovale or intra-pulmonary right-to-left shunt causing the Fluids hypertension.
t) Cardiac damage and hypothyroidism, with and without blood shunting from right to left, and from left to right, causing the Fluids hypertension.
u) Cranial (cerebral) venous sinus thrombosis and stenosis, and Jugular vein thrombosis cause the Fluids Hypertension Syndromes.
v) Vicious cycles worsening and lengthening the migraine.
w) All these fluids are constantly drained.
x) Physiology and Pathophysiology of the Optic Nerve’s Lamina Cribosa.

**Scheme XII-2:** The total intraocular pressure over the lamina cribosa increases in grams as increases its inner square millimeter surface, even with the same mmHg pressure.
y) Ocular Hypertension Syndrome.

**Scheme IX-2** repeated: Intraocular pressure higher than the smaller Cerebrospinal Fluid pressure at the other side of the lamina cribosa.

z) Increased pressures of the veins: Intra-cranial, Cavernous Sinus, Superior Ophthalmic, Inferior Ophthalmic, and Episcleral veins causing the Cerebrospinal Fluid Hypertension and Ocular Hypertension. Valsalva maneuver.

aa) Central Retinal Venous Pulsations and Ophthalmo-dynamometry.

ab) Where, why and when does it occur the lesion of the glaucoma?

There are various pathophysiology to explain why the many etiologies cause the fluids pressure disturbs and consequent migraines. Probably all of them are correct.

XII a) *The body's inelastic closed spaces pathophysiology:*

There are structural hydrodynamic similarities between the eyes, the intracranial and the inner ears.
spaces: all of them are inelastic closed spaces and fluids filled. The brain and the inner ears have no lymphatic drainage. The eyes have lymphatics draining only in the Ciliary body (Yucel Y H, and others), and the Schlemm canal drains the anterior chamber.

The Etiologies or Risk Factors above described cause some Ocular, Cerebrospinal or Inner Ear’s fluids excessive secretion by two ways: or increasing their active physiological secretion (as an exudate), or increasing their passive (a transudate) capillary filtration and exudation from the blood, or both. After this excessive fluids secretion, there are two possibilities:

- When the fluids drainage from that space is capable of draining this excessive volume, nothing occurs.
- When there is a relative deficiency of outflow or resorption of these excessive fluids from that space, its overload causes both:
  - Edema in those tissues which have free expansion possibilities.
  - Pressure rise in those closed inelastic spaces fluids filled. These rose fluids pressures stretch all the tissues, the nerves mainly at their laminas cribosas, the arteries reducing the arterial blood with oxygen, and the veins reducing their volumes.

  The migraines and variants are the feelings of all this.

The water retention in the body of the migraine patients already was measured: “Bioelectric impedance assay demonstrated a slight total body water increase in alcohol-induced migraine patients.” (Martelletti P, and others).

Many etiologies cause water retention through the arterial capillaries in the body and cause the fluids hypertension and migraines. The main ones are:
- Caffeine.
- Excessive water drank.
- Vasopressin.
- Wine.
- Beer.
- Estrogens.
- Corticosteroids.
- Toxins.

The water retention in the entire body of migraineurs is stimulated by the increased production of the pituitary hormone Vasopressin: “During an attack, vasopressin was consistently raised (median (range) 3.5 (1.2-9.6) pg/ml… The highest vasopressin concentration occurred in the only patient who vomited. The results suggest vasopressin rises during an attack of spontaneous migraine, and this may, in part, be related to emesis. In the majority, vasopressin levels only rose sufficiently to have some renal antidiuretic effect, although in some these levels could have been sufficient to cause alteration in peripheral blood flow. Release of vasopressin may be responsible for the facial pallor and antidiuresis observed in migraine.” (Hampton K K, and others).

This vasopressin excessive secretion can be caused by the Pituitary gland been squeezed by the Cerebrospinal Fluid Hypertension and releasing its accumulated vasopressin hormone into the blood circulation. It is similar to an squeezed sponge releasing its contained water,

The Ayurveda medicine knows this for more than 2,000 years ago, and denominate it as “Pitta”: “Migraines frequently happen when systemic Pitta moves into the cardiovascular system, circulates, and affects the blood vessels around the brain. The blood vessels dilate due to the hot, sharp quality of Pitta. This, in turn, creates pressure on the nerves, resulting in migraines. Pitta disorders are characterized by the red complexion and eyes, light sensitivity, burning sensation, anger, irritability, and nose bleeds. Liver and blood toxicity are often associated with these symptoms.” (Ayurveda).

When the patient already has water retention, anyone of many triggers can rise the Fluids’ pressures and cause the migraines: “Coughing, sneezing, climbing stairs, or bending over increases headache pain by increasing intracranial pressure.” (Robertson Jr WC and Mack P). Without any previous water retention, these same activities cause nothing.
In an inelastic closed space with constant volume, whether one expands, other shrinks:

During a migraine, as there is increased secretion of the Cerebrospinal Fluid that raises its pressure, its volume also increases. As the skull and Dura mater space do not expand, the brain and the blood vessels are squeezed. Squeezing the vessels, the cerebral blood flow is reduced, the blood volume in the brain reduces, and the brain oxygen consumption (extraction) from this restricted blood is increased. Bednarczyk already measured this:

“In nine patients (seven female and two male), global cerebral blood flow (ml/min/100 g [SD]) was measured as 52.70 (6.9) during migraine and 59.65 (10.6) in the migraine-free state; p=0.028.

Cerebral blood volume (ml/100 g [SD]) was 3.6 (0.43) during the symptomatic state and 3.8 (0.55) after the migraine; p=0.047.

Oxygen metabolism (ml/min/100 g [SD]) was 3.68 (0.9) during migraine and 3.38 (1.02) without headache; p=0.211.

The oxygen extraction ratio was 0.48 (0.15) and 0.41 (0.12) during migraine and migraine-free states, respectively; p=0.132.

Conclusions: In patients experiencing migraine without aura, cerebral blood flow and cerebral blood volume are reduced during the headache phase.” (Bednarczyk E M, and others).

In the eye, when the intraocular pressure rises, the blood supply shortens:

“Choroidal blood flow decreases when intraocular pressure is increased. The findings in the central retinal artery indicate reduced blood flow velocity in this artery during raised intraocular pressure.” (Findl O, and others). This ischemia explains the progressive retinal ganglion cells death of glaucoma.

“Acute elevations of intraocular pressure led to a decreases in juxtapapillary retinal and optic nerve-head blood flow of 7.4% and 8.4%/ 10-mmHg intraocular pressure increase, respectively.” (Michelson G, and others).

The small fluids disturbs are physiological, without any ache.

We conclude that the migraine is caused by a cerebrospinal fluid pressure or an intraocular pressure rise, squeezing and causing ischemia on the nervous tissues immersed in them.

XII b) Vascular constriction and rebound dilatation pathophysiology: Any etiology that causes constriction of any ocular, cerebral or meningeal blood vessel, reduces the brain and ocular blood supply in that place, and this localized ischemia (few arterial blood) causes hypoxia (few oxygen), auras and eventually brain ischemic damage.

“The intra-carotid 133Xenon injection technique in eight patients provoked aura symptoms and typical, migraine-related, posterior (brain) focal hypoperfusion in four patients, followed by typical unilateral headache in three patients.” (Friberg L, and others).

This vascular constriction and ischemia is followed by rebound vascular capillary fluids exudation and vasodilation, which in the closed cranium raises the Cerebrospinal fluid pressure and causes headaches and migraines. This already was observed:

Studying 63 patients with migraine with aura: “The first observable event was a decrease of regional cerebral blood flow posteriorly in one cerebral hemisphere. Further development of this pathological process was accompanied by the aura symptoms. Thereafter headache occurred while regional cerebral blood flow remained decreased. During the headache phase, regional cerebral blood flow gradually changed from abnormally low to abnormally high without apparent change in headache. In some patients headache disappeared while regional cerebral blood flow remained increased. Although regional cerebral blood flow reduction and aura symptoms in the great majority of patients were unilateral, one-third had bilateral headache. Unilateral headache usually localized to the side on which regional cerebral blood flow was reduced and from which the aura symptoms originated (i.e., aura symptoms were perceived to occur contralaterally but presumably originated in the hypoperfused hemisphere). Our results suggest a simple model for migraine attacks: A pathological disturbance in one cerebral hemisphere causes the aura symptoms and after a time delay, it also causes the headache…” (Olesen J, and others).
XII c) Vascular dilatation pathophysiology: Many etiologies, as Nitroglycerin and Carbachol, cause a primary vasodilation, headaches and migraines, without previous vascular constriction.

The vasodilation causes the capillary exudation of fluids, the elevated fluid pressures and consequent migraines.

“Migraine headache was provoked in 20/27 (74%) migraineurs who received Nitroglycerine…. During Nitroglycerine infusion, there was a transient 6.7-30.3% vasodilation of all blood vessels. The headache occurred between 1.5 h and 5.5 h after infusion and was unilateral in 18/20 (90%) responders. During migraine, blood vessel diameters were no different from baseline, nor between headache and non-headache sides.” (Schoonman G G, and others).

“In migraine attacks with half-sided headache, there was only dilatation on the headache side of Middle meningeal artery of 12.49% and of Middle cerebral artery of 12.88% and no dilatation on the nonheadache side of Middle meningeal artery and Middle cerebral artery. In double-sided headache we found bilateral vasodilation of both Middle meningeal artery and Middle cerebral artery.” (Asghar M S and others).

Calcitonin gene related peptide (CGRP) causes vasodilation and migraines: “Release of Calcitonin gene related peptide in the dorsal spinal cord has been associated to nociceptive transmission, and release from peri-vascular nerve endings causes neurogenic vasodilation. Calcitonin gene related peptide levels increase in the cranial circulation during migraine attacks, and Calcitonin gene related peptide injection in migraineurs results in migraine-like attacks.” (Benemei S, and others). Calcitonin gene related peptide antagonists cause inhibition of this vasodilation and can prevent or terminate some migraines.

The vasodilation causing headaches explains the quickly headaches improvement caused by vasoconstrictor medicaments as Ergots and Triptans, without curing their etiologies. Their overuse cause brain ischemia with headaches. Their withdrawal cause vasodilation and headaches.

XII d) Substance “P” and caffeine. There is a coincidence about Substance P and caffeine: Besides being a potent vasodilator dependent of nitric oxide release, many doctors related Substance P with some inflammatory processes in the joints, pain in arthritis, back pain, fibromyalgia, eczema, vomits and headaches. Coincidently, all these disturbs are also related with caffeine. Maybe this is the explanation: “The messenger ribonucleic acid for ... Substance P, is elevated in the striatum (a subcortical part of the cerebrum) by high doses of caffeine” (Svenningsson et al., 1997. Cited by Fredholm B B, and others).

XII e) Excessive water drinks cause acute fluids exudation: The “water drink test”, which is 1,000 milliliters (two pints) of water drank in 5 to 15 minutes, which raises the intraocular pressure after 15 to 60 minutes, is the evidence of this pathophysiology. This acute water drink causes fluids exudation and increases the serum transudation through the arterial capillaries in all the body, not only in the eyes. In the eyes, brain, and inner ears, this acute fluids exudation can be simultaneously etiology and trigger of the three Fluids Hypertension Syndromes. Its effects endure until this excessive water is expelled by the kidneys, which can take hours to happen.

XII f) Sleeping causes 3 distinct etiologies to the fluids' hypertension:

1- Laying flat on the bed causes water overload in the head. The supine intraocular hypertension:

Laying flat on the bed, known as the supine position, causes the spread to all the body of the water previously retained by gravity in the legs, pelvis and belly during the day. This water is daily retained in the veins, in the lymphatics and mainly in the interstitial space. It is a small spread edema, without clinical symptoms, and occurs in everybody, life along.
Scheme XII-1: The belly and inferior part of the body retain water (in blue) when awake, standing up or seated down, caused by the gravity force. As bigger is the amount of water drank daily, so bigger is the amount of water retained when standing up, which is released when lying down. Consequently, bigger will be the intraocular, cerebrospinal fluid and inner ears’ lymph pressures rising while sleeping.

Meanwhile, when the person goes to sleep at the horizontal position (supine), this retained water suddenly goes into the blood circulation. This increases the fluids’ pressures in the head when the patient sleeps. This excessive retained water also increases the urine formation at the initial sleeping hours.

This same water overload in the head occurs in the astronauts just after they get into the microgravity space: “During a space mission flown in microgravity early changes in intraocular pressure due to the fluid shift effect in microgravity were analyzed with an automatic self-tonometer. In total, 13 pressure readings per eye were obtained during the mission. The first pressure readings 16 min after reaching microgravity revealed a 92% rise in intraocular pressure compared to the daytime-correlated baseline data on earth followed by an adaptation phase lasting for several hours.” (Draeger J, and others).

2- The venous pressure in the head raises: At the vertical position, with the head above the heart, there is a negative blood pressure in the head's veins, which lowers the cranial and intraocular pressures. At the horizontal position, the pressure in these veins is around zero, bigger than at the vertical position, increasing the fluids’ pressures in the head.

These above pathophysologies were confirmed by comparing the intraoculur pressures of the same eyes when sleeping flat and when sleeping at an 30 degrees head-up position: “Seventeen eyes of 17 patients with glaucoma with controlled intraocular pressure and new disc hemorrhage...During the sleep period (midnight to 6 am) the mean intraocular pressure was 3.2 mmHg lower in the 30-degree head-up position compared with the flat position. Sixteen of 17 patients (94.1%) had lower intraocular pressure in the 30-degree head-up position. The reduction in intraocular pressure in the 30-degree head-up position was 20% or more in 35% of patients (6/17). The 30-degree head-up sleeping position lowers intraocular pressure compared with the flat position. Although this effect varies between individual patients, mean intraocular pressure was 20% lower in one third of patients in this series.” (Buys Y M, and others).

In the case of moderate head-down body tilt, the intraocular pressure rises: “One hundred nine subjects with... no disease other than glaucoma (glaucoma suspects=79, early manifest glaucoma=14, normal controls=16)...in -10-degree whole body head-down tilt... the intraocular pressure significantly increased in all groups approximately to the same extent (approximately 20%). Pattern electroretinogram
amplitude did not change in normal controls but decreased significantly in glaucoma suspects, -25%, early manifest glaucoma -23%.” (Ventura L M and others).

Even the small difference of the intraocular venous pressure between one and the other eye in the patient sleeping in the lateral decumbence, cause a distinction of his glaucoma evolution: “Among the enrolled patients, 309 (60.6%) with normal-tension glaucoma and 121 (66.5%) with high-tension glaucoma had asymmetric visual field between the 2 eyes. Among the 309 normal-tension glaucoma patients, 100 (32.4%) preferred the lateral decubitus position. Of these, 66 (66.0%) preferred the worse eye–dependent lateral decubitus position. Among the 121 high-tension glaucoma patients, 32 (26.4%) preferred the lateral decubitus position, and of these, 23 (71.9%) preferred the worse eye–dependent lateral decubitus position. Our results suggest that the sleep position habitually preferred by glaucoma patients may be associated with greater visual field loss.” (Kim K N and others).

3- The closed eyelids compress the ocular veins which drain the aqueous humor from the eye, and this also causes the intraocular pressure rise.

The consequence is the worsening of the glaucoma when sleeping: “The progression of visual field damage in normal-tension glaucoma is associated with intraocular pressure in the supine position and the magnitude of intraocular pressure elevation accompanying postural changes. These results suggest that deterioration in normal-tension glaucoma may occur when patients are lying flat during sleep.” (Kiuchi T, and others).

XII g) Blood hypoxia causes cerebrospinal fluid hypertension: Blood hypoxia (few oxygen O2) and excessive carbonic gas (CO2) in the blood causes arterial vasodilation in the brain and can begin the Cerebrospinal fluids’ exudation mechanism, which raises its pressure and results in headaches, migraines and many pathologies.

On horses, “cerebrospinal fluid pressure and mean systemic arterial pressure increased significantly with high arterial carbon dioxide (CO2) tensions. Intraocular pressure did not change significantly during these same conditions.” (Cullen L K, and others).

The Acute Mountain Sickness caused by the insufficient oxygen in the air at high-altitude on people not adapted to it, is the evidence of this pure arterial blood hypoxia (few oxygen) pathophysiology. It causes the acute Cerebrospinal Fluid Hypertension, with sleeping difficulties, severe digestive problems, dizziness, headaches, Optic Nerve’s disk edema, cerebral and intraocular arterial and venous dilatation, compression of the Central Retinal Vein in the Optic Nerves, retention of the venous blood in the eye, retinal hemorrhages, vitreous hemorrhages, and central retinal vein thrombosis.

The insufficient blood oxygen causes the Cerebrospinal fluid pressure rise and the engorgement of the Optic Nerve’s sheath: “Optic nerve sheath diameter increases at high altitude, and this increase is associated with more severe symptoms of acute mountain sickness. Given the linkage between optic nerve sheath diameter and intracranial pressure, these results strongly suggest that intracranial pressure plays an important role in the pathophysiology of acute mountain sickness.” (Sutherland A I, and others).

This Cerebrospinal Fluid Hypertension has good therapeutic results with the medicament Acetazolamide, 125 mg twice daily, to prevent and medicate the patients with the Acute Mountain Sickness, because Acetazolamide reduces the Cerebrospinal Fluid’s pressure and improves arterial oxygenation. It is also a diuretic which reduces the total body water.

The Cerebrospinal Fluid Hypertension caused by the acute mountain sickness causes the Optic Nerve’s disk edema (swelling) in “27 healthy mountaineers aged 26 to 62 years of a medical research expedition to Muztagh Ata (7546 m [24,751 ft]) in Western Xinjiang Province, China: Sixteen of 27 study subjects (59%) exhibited optic disc swelling during their stay at high altitudes, with complete regression on return to lowlands. Significant correlation was noted between optic disc swelling and lower arterial oxygen saturation, younger age, and higher cerebral acute mountain sickness scores.” (Bosch M M, and others).
Anemia can cause brain hypoxia because the blood with few hemoglobin carries few Oxygen, and causes vasodilation, brain edema and Cerebrospinal fluid hypertension: “Five women with confirmed idiopathic intracranial hypertension (normal brain magnetic resonance imaging, normal cerebrospinal fluid, elevated intracranial pressure), and one man with presumed idiopathic intracranial hypertension... All had bilateral papilledema associated with peripapillary hemorrhages. Two had retinal cotton-wool spots, and two had preretinal hemorrhages. All had severe iron deficiency anemia... Their symptoms and signs improved dramatically after treatment of the anemia.” (Biousse V, and others).

Respiratory insufficiency causes arterial blood hypoxia and accumulates carbonic gas (CO2) in the blood. Both cause brain arterial vasodilation and Cerebrospinal fluid hypertension.

XII h) Caffeine reduces the cerebral blood flow. Caffeine withdrawal, excessive carbonic gas and visual stimulation increase the cerebral blood flow:

“After 90 minutes of a dose of 250 mg of caffeine, the cerebral blood flow reduced by 23% (anterior circulation gray matter, posterior circulation gray matter) and 18% (white matter) in all subjects... Mean postcaffeine cerebral blood flow reduction in anterior circulation gray matter was 26% in high users versus 19% in low users... After 30 hours of caffeine abstinence to induce withdrawal, cerebral blood flow in high caffeine users exceeded that in low users by 31% (anterior circulation gray matter) and 32% (white matter) (posterior circulation gray matter, not significant).” (Field A S, and others).

“Ten regular caffeine consumers were imaged before and after a 200-mg caffeine dose. For a region of interest defined by cerebral blood flow activation to the visual stimulus, the results were:
- Hypercapnia increased cerebral blood flow (+46.6%),
- Visual stimulation increased both cerebral blood flow (+47.9%) and cerebral metabolic rate of oxygen (+20.7%), and
- Caffeine decreased cerebral blood flow (-34.5%).” (Perthen J E, and others).

These above findings explain:
1) The excessive carbonic gas in the blood and hypoxia-related risk factors which cause migraines: Patent cardiac foramen ovale, acute mountain-sickness, absence of respiratory exercises, any cardiac, pulmonary, or vascular pathology that retains carbonic gas and reduces the brain oxygen.
2) The migraine’s preventive and therapeutic effect of any respiratory exercise, which normalizes the blood oxygen and carbonic gas.
3) The photophobia (light sensitivity) during migraines, and the tendency of the migraineurs to close their eyes to improve their migraine.
4) The caffeine temporary improvement of migraines, similar to the vasoconstrictors medicaments ergots and tryptans, because caffeine is also a brain vasoconstrictor.

In the caffeine drinkers, after its withdrawal, the increased cerebral blood flow causes:
a) Headaches and other signs and symptoms in few hours.
b) After drinking caffeine again, there is improvement of all those symptoms.
c) The consequent everyday dependence of the people from the caffeine.

XII i) Caffeine increases the production of the cerebrospinal fluid:

“The long-term consumption of caffeine can induce ventriculomegaly; this was observed in 40% of the study rats... there was increased production of cerebrospinal fluid, associated with the increased expression of Na+, K--ATPase and increased cerebral blood flow. In contrast to the chronic effects, acute treatment with caffeine decreased the production of cerebrospinal fluid, suggesting 'effect inversion' associated with caffeine, which was mediated by increased expression of the A1 adenosine receptor, in the choroid plexus of rats chronically treated with caffeine.” (Han M E, and others).

The consequences (not mentioned) from these increased production of cerebrospinal fluid and ventriculomegaly caused by chronic caffeine consumption, were:
1st. Consequence: These rats suffered the cerebrospinal fluid's hypertension syndrome, and probably also with migraines and headaches, which they could not complain.
2nd. Consequence: The ventriculomegaly only could happen with the head's size becoming bigger (Hy-
drocephaly), or with atrophy of the brain (mental retardation), or both.

XII j) Caffeine causes aseptic neuritis and ophthalmoplegic migraine: The magnetic resonance image visualization of the cranial nerves affected with ophthalmoplegic migraines show that they are suffering an aseptic neuritis. It is aseptic because it is not infectious: there are no microbes or virus in the affected nerve. It is a neuritis because there is an inflammation in the nerve, characterized by pain, (headaches, migraines, and pain at that part of the body from that nerve), loss of its physiological reflexes, paralysis and atrophy of the muscle supplied by the nerve.

The probable etiologies of this aseptic neuritis are:

- Caffeine poisoning the nerve. Caffeine is a pro-inflammatory drug, because it antagonizes the cellular A2A adenosine receptors, which reduce the inflammations. (Ohta A, and Sitkovsky M).
- The Cerebrospinal Fluid Hypertension squeezing and causing ischemia of the nerve.
- Both etiologies together.

These aseptic neuritis improve stopping beer, caffeine, excessive water drinks and chocolate. Any medicament is complementary or useless.

XII k) Caffeine causes intraocular aqueous secretion and outflow disturbs:

We suspect that the chronic action of caffeine in the Trabecular meshwork of the Anterior chamber in the eye, in the Schlemm canal and in the Aqueous veins, which drains the Aqueous humor and controls the intraocular pressure, during years, causes their definitive damage. Their chronic damage and respective chronic Aqueous humor insufficient outflow, raises the intraocular pressure and after years it causes the chronic open angle glaucoma.

The fetuses in their mothers are more sensible to the caffeine intoxication, because they are forming their bodies, and also because they can not detoxify the caffeine. The caffeine that the mother drinks causes in her child the congenital propensity of glaucoma and high myopia, besides many other lesions. This is not genetic: it is caused by the mother intoxicating her fetus with caffeine.

“Caffeine could elevate intraocular pressure by either increasing aqueous formation or inhibiting drainage. As a phosphodiesterase inhibitor, caffeine may increase intracellular cyclic AMP, stimulating the production of aqueous by the ciliary body…Caffeine could also inhibit aqueous drainage by decreasing tone in smooth muscle cells of the angle via adenosine receptor blockade, with closure of the fenestrae that drain aqueous into Schlemm canal.” (Chandrasekaran S, and others).

XII l) Caffeine increases the dopamine receptors in the brain, which causes migraines:

“Prodromal symptomatology (mood changes, yawning, drowsiness, food craving), accompanying symptoms (nausea, vomiting, hypotension) and postdromal symptoms (mood changes, drowsiness, tiredness) may be related to dopaminergic activation. The dopaminergic system could also play a role in the headache phase, either by taking part in nociception mechanisms, or by regulating cerebral blood flow…Altered dopaminergic control of prolactin secretion exists in migrainous women…A high density of lymphocytic (dopamine) D5 receptors has been found in migraine sufferers, thus suggesting their upregulation. These findings support the view that hypersensitivity of peripheral and central dopaminergic receptors is a specific migraine trait.” (Fanciullacci M, and others).

“It has been previously demonstrated how rats can develop behavioral dopamine supersensitivity after long-term administration of caffeine… An increase of 126% in striatal dopamine D2(High) receptors was found in caffeine-sensitized rats. This marked elevation in D2(High) receptors may account for the caffeine-induced behavioral dopamine supersensitivity and may help elucidate the interactions between caffeine and dopamine neurotransmission.” (Simola N, and others).

XII m) Chronic digestive intoxication causes migraines and neurological disorders:

We suspect that the toxins absorbed by the digestion of unhealthy foods, and by the chronic feces (bowel) constipation, can cause vascular disturbs in the brain and consequent migraines from the Cerebrospinal Fluid Hypertension. We also suspect that after many years, this chronic intoxication can cause neurological disorders, as Parkinson’s disease, Multiple Sclerosis, and Amyotrophic Lateral Sclerosis.
Information on the frequency of bowel movements was collected from 1971 to 1974 in 6790 men aged 51 to 75 years without Parkinson’s Disease in the Honolulu Heart Program. Follow-up for incident Parkinson’s Disease occurred over a 24-year period. Ninety-six men developed Parkinson’s disease an average of 12 years into follow-up…Incidence declined consistently from 18.9/10,000 person-years in men with <1 bowel movement/day to 3.8/10,000 person-years in those with >2/day. After adjustment … men with <1 bowel movement/day had a 2.7-fold excess risk of Parkinson’s Disease versus men with 1/day. The risk of Parkinson’s Disease in men with <1 bowel movement/day increased to a 4.1-fold excess when compared with men with 2/day and to a 4.5-fold excess versus men with >2/day. Conclusion: Findings indicate that infrequent bowel movements are associated with an elevated risk of future Parkinson’s Disease.” (Abbott R D, and others).

XII n) Beer, wine, caffeine, excessive epinephrine and cortisone cause fluids’ exudation and edemas: We observed that Caffeine caused chronic edemas in our patients. The toxic effect of beer, wine, caffeine, excessive adrenaline (Epinephrine), cortisone, and Diabetes, weakens the capillaries and cause plasma exudation and the excessive fluids’ secretion. This explains the chronic retention of water, with consequent small edema spread in the entire body, caused by these etiologies. The big belly edemas caused by beer is well known. These etiologies stimulate the fluids’ pressures rise, which in addition to any other etiology can result in Migraines. “In guinea pig, intragastric ethanol increased plasma extravasation in Dura-mater, …and caused vasodilation around the middle meningeal artery.” (Nicoletti P, and others).

XII o) Brain hypoxia and excessive Glutamate cause Cortical Spreading Depression, Auras and migraine. The Chinese Restaurant Syndrome.

“Cortical spreading depression is a self-propagating wave of cellular depolarization that has been implicated in migraine and in progressive neuronal injury after stroke and head trauma.” “Cortical spreading depression is linked to severe hypoxia and marked neuronal swelling that can last up to several minutes.” “Increasing oxygen availability shortens the duration of Cortical spreading depression and improves local redox state. Our results indicate that tissue hypoxia associated with Cortical spreading depression is caused by a transient increase in oxygen demand exceeding vascular oxygen supply.” (Takano T, and others).

“Cortical spreading depression is a transient (60-120 s) and at 3-5 mm/min propagating depolarization wave of cortical neurons and glial cells and is characterized by a direct current shift of 20-35 mV. It is accompanied by massive redistribution of ions between extracellular and intracellular compartments and by a water influx into the cells. Extracellular potassium ion concentration increases up to 60 mM/l. Potassium ions and the excitatory neurotransmitter glutamate essentially contribute to the initiation and propagation of Cortical spreading depression. Both depolarization and disturbance of brain ion homeostasis regenerate within a few minutes while enhancing energy metabolism, but do not cause damage to normally perfused brain tissue… The observation of Cortical spreading depression waves in migraine aura patients with the magnet encephalogram technique confirmed that Cortical spreading depression (is) the underlying mechanism of migraine aura.” (Richter F, and Lehmenkühler A).

As Glutamate is a normal constituent of many daily foods and drinks, and as the body has physiological ways to daily metabolize it, Glutamate only causes migraines in susceptible persons when it occasionally is ingest in a high dosage. This is the etiology of the “Chinese Restaurant Syndrome”. The neuronal swelling, or water influx into the cells, increases the brain volume, which in the inelastic cranium can cause the Cerebrospinal fluid pressure raise and consequent migraine.

XII p) Auras and Prodromes of Migraine: Auras are the most evident prodromic symptoms of migraines. The aura usually lasts for 5 to 20 minutes. Usually Auras are consequent to the ischemia and hypoxia (few oxygen) in some point of the central nervous system or in the eyes, caused mainly by vasoconstriction (vasospasm), and the affected neural area manifests its dysfunction. It also can be caused by excessive glutamate (see above). In our patients with migraines with auras, 80% were related with caffeine drinks, which causes vaso-constriction and ischemia.
When the ischemic area is in the eye, or in the visual pathway, or in the visual brain cortex, the aura is visual, as:
- Blurred vision.
- Flashes of light, scintillations.
- Hemianopia or temporary blindness.
- Micropsia, macropsia, metamorphopsia.
- Migrating scotoma (visual field defects).
- Synesthesia: a mixing of senses during the aura.
- Visual hallucinations.
- Wavy or zigzag lines, usually colored lines (fortification spectra) (Teichopsis).

Whether the ischemia occurs at another central nervous system place, the aura can present the corresponding symptom. Whether the ischemia is intense, it can cause a Transient Ischemic Attack, or there can be a definitive ischemic damage, as a brain stroke or a myocardial infarct.

Usually, in less than 20 minutes after the visual aura, the patient has the rebound arterial dilatation, consequent fluids exudation, which results in rising the pressure in that closed space: the eyes, the cerebrospinal fluid or the inner ear spaces. Consequently, the stretched structure or nerve aches: the patient feels Migraine or a variant. Whether the pressure does not rise enough, there will be no migraine, and the patient with visual aura without Migraines is denominated with “Acephalgic Migraine”.

As the main etiology of an aura is the ischemia, other ischemic damages are more common in the patients with auras: myocardial infarction, brain, pontine and cerebellar infarcts (ischemic stroke).

“Migraineurs, particularly with aura, have a higher cardiovascular risk profile than individuals without migraine.” (Scher A I, and others).

“The risk of posterior circulation strokes, especially cerebellar, is increased in migraineurs with aura. Female migraineurs, with or without aura, have an increased risk of deep white matter brain lesions.” ( Sahai-Srivastava S, and Cowan R).

Caffeine is the most common etiology to the Auras and to some cardiovascular diseases.

- Other prodromes or premonitory signs and symptoms of migraines are:
  - Non visual Auras caused by ischemia at another central nervous system places (discomfort, exhaustion, mood disorders, etc.).
  - Unconscious feelings of the signs or symptoms of the surmounting pathophysiology that is rising the fluid pressures, and the patient unconsciously try to defend himself from the imminent migraine.
  - Migraines variants or diffuse pain, consequent to the Cerebrospinal Fluid, intraocular, or inner ears hypertension, and their neural reflexes.
  - Sleeping is a self-defense measure, stopping the aches and neural reflexes.
  - Vomits, increased urination, and diarrhea are the parasympathetic neural body defenses trying to get free from the body's excessive liquids and pressures.
  - Diaschisis is a loss of some cerebral function and electrical activity in areas remote from the damage but neuronally connected to it. So, a brain ischemia can cause neurological dysfunction far from it.

When the visual aura is intense and persistent, the brain edema can be visible in the Magnetic Resonance Image: “A 41-year-old woman with known basilar migraine for 5 years consulted about a persistent visual aura (visual snow phenomenon) plus bilateral paresthesias in the extremities for 4 days... An brain MRI detected ... an abnormal signal in the left occipital lobe in apparent water diffusion coefficient... A new brain MRI 8 days after did not show any previous lesion in the same sequences... These MRI signals during the aura, suggesting cytotoxic edema.” (Belvis R, and others).

XII q) Only one etiology alone seldom is enough: When the patient has only one pure etiology to migraines, this usually can not cause the aches, and it is only a Risk Factor.

“Vasoactive intestinal peptide mediates a marked dilatation of cranial arteries, but does not trigger migraine attacks in migraineurs. Vasoactive intestinal peptide induced a mild immediate headache. These data provide further evidence against a purely vascular origin of migraine.” (Rahmann A, and others).
The patient with cardiac patent foramen ovale is lifelong with this risk factor to migraines. Whether she is a woman, her estrogens are one more risk factor. Whether she drinks caffeine, or beer, or excessive water, the adding up of all simultaneous risk factors become etiologies and cause migraines.

We conclude that to feel migraines the patient must have two or more risk factors simultaneously.

The research which isolate the patient from his daily drinks and give him only one risk factor, usually does not obtain any migraine, unless this risk factor is taken in a big dose.

Even the caffeine needs some individual predisposition to cause its bad effect: “Available evidences showed that caffeine had different effects on intraocular pressure in different groups of individuals. For normal individuals, intraocular pressure was not changed by ingestion of caffeine, while for patients with glaucoma or ocular hypertension, intraocular pressure increased significantly.” (Li M, and others).

XII  

1) Allodynia, Neural referred (reflexes) pain, neuropathic pain, muscle tenderness, other signs and symptoms:

Many migraines, variants signs and symptoms are worsened by the central nervous system spreading reflex orders to other nerves that ache, or cause vasodilation, or vasoconstriction, or increase secretions, or cause muscular tenderness, or cause other sign or symptom.

These reflexes are the nervous system reacting to defend himself, and also warning the conscious individual that his body is suffering and it needs help. The aching nerve can be other than the stretched nerve, and this is one way that the central nervous system manifests its sufferings.

Many aches are caused by the Allodynia. “Cutaneous allodynia is pain resulting from a nonnoxious stimulus to normal skin.” “In 79% of the patients, migraine was associated with cutaneous allodynia.” (Burstein R, and others).

Many hemicranias are allodynia (physiologic sensations transformed in pain) and muscle tenderness:

On “25 patients with strictly unilateral migraine and 25 healthy subjects… pressure pain thresholds in the neck there were significant differences between groups and sides,… while pressure pain thresholds in the cephalic point showed differences between groups, but not sides… Patients had lower pressure pain thresholds and increased pericranial tenderness on the symptomatic side…, whereas no significant differences were identified between the non-symptomatic side and controls. The enhancement of local tenderness scores was related to hyperesthesia of specific muscles (sternocleidomastoid, suboccipital, and temporalis) rather than a generalized pericranial tenderness.” (Fernández-de-Las-Peñas C, and others).

The allodynia in migraineurs with aura is progressive during an attack: “During a migraine attack in a 42-year-old male… Prior to the headache, he experienced visual, sensory, motor and speech aura. During the headache, he experienced photo-, phono- and odour-phobia, nausea and vomiting, worsening of the headache by coughing or moving his head, and cutaneous pain when shaving, combing his hair or touching his scalp… (i) After 1 h, mechanical and cold allodynia started to develop in the ipsilateral head. (ii) After 2 h, this allodynia increased on the ipsilateral head and spread to the contralateral head and ipsilateral forearm. (iii) After 4 h, heat allodynia was also detected while mechanical and cold allodynia continued to increase.” (Burstein R, and others).

We conclude that there are at least six types of neural signs and symptoms from the Fluids Hypertension Syndromes and the caffeine intoxication:

1- Primary ache: It is secondary to a structure or nerve stretched by the Fluid's Hypertension or intoxicated by the caffeine, and it aches. There are no primary aches (pain) without etiologies: all aches and migraines are secondary to some disturb. The denomination as “primary” means that the ache is the first symptom, and not that it has no etiology.
The knowledge that neuralgia can be consequent to a nerve intoxication or compression is spread: “Neuralgia, pain along a nerve trunk or its branches. It may be dull, aching, or sharp; intermittent or constant... The pain may result from a virus...; toxic conditions...; infections...; injury; vitamin deficiency; or pressure on the nerve.” (Microsoft Bookshelf 98).

- One example: The Ocular hypertension stretches the inner eye’s structures and the Optic Nerve’s disk, and they ache. This is a “primary” ache at the eye, or a "cluster migraine", although it is secondary to the intraocular hypertension.
- Other example: The Cerebrospinal Fluid Hypertension stretches the Optic Nerve’s Dura mater and Disk, and they ache. This is a “primary” ache behind the eye, or "temporal migraine" or "cluster headache".

2- Alldynia of the affected nerve: The alldynia converts any physiologic sensation, as a finger touch of any nerve, into an ache. The alldynia can be consequent to:
- The Cerebrospinal Fluid Hypertension squeezing the Central Nervous System, Spinal Chord, Optic Disk, Optic Nerve, Optic Chiasm, Optic Tract, and all the body’s nerves.
- The Ocular hypertension squeezing the Retina and the Optic nerve's disk.
- The inner ear's fluids Perilymph and Endolymph hypertension squeezing the inner ears’ nerves.
- The Caffeine and other toxins intoxicating the Central Nervous system, spinal chord and all the nerves.
- The Central Nervous system sensitizing or modulating the nerves’ physiological sensations.

These disturbs can cause the ill functioning of the visual pathway, which by alldynia turns the physiological light sensation into a pathological stimulus to be avoided, as Photophobia (light sensitivity).

“The subjects were 221 outpatients consecutively evaluated in the Headache Center of the L. Sacco Hospital in Milan: Forty-seven out of 114 migraine without aura patients (41.2%) complained of alldynia during headache episodes, 41 out of 63 migraine with aura patients (65.0%), and 29 out of 44 chronic migraine patients (65.9%).” (Lovati C, and others).

3- Alldynia of other nerve: The alldynia can happen at other nerve, which is not the affected nerve, and this is caused by the central nervous system changing (modulating) its physiologic (normal) sensibility into aches. These are the neuropathic pains or neuralgias caused by alldynia.

An example: The Ocular Hypertension squeezing the Optic Nerve’s Lamina Cribosa causes aches at the posterior head and upper neck, area of the Greater Occipital nerve, which is a branch of the 2nd Cervical spinal nerve root. This nerve aches because it is connected in the Central Nervous System with the aching sensations of the Trigeminal nerve, which innervates the Optic Nerve. So, the intraocular hypertension frequently aches at the nape, and this is denominated as Tension Migraine or Cervicogenic headache.

Many Migraines are the alldynia of the scalp nerves, and it can be felt as pressure-painful points on scalp arteries. The alldynia turns the physiological epidermic and vascular sensations, most of them unconscious, into very conscious aches. As stopping the arterial circulation also stops the vascular sensations, the compression of the Superficial Temporal Arteries can reduce the Migraine: “Because a prolonged compression of the major scalp arteries blocks migraine attacks in a substantial number of patients... thirty-seven consecutive ambulatory patients were instructed to apply, at the onset of each migraine attack, a handmade device firmly compressing both temporal arteries... 17 patients reported benefit from using the device... the percentage of attacks aborted or attenuated by early use of the device was 90.5% in the first month and 95.7% in the second month.” (Cianchetti C, and others).
4- Neural reflexes: The spreading aches in the Central Nervous System can stimulate a motor nerve, not primarily affected, and its impulses can cause vasodilation, vasoconstriction, increasing secretions, edema, etc. These are neural reflexes secondary to the primary aches. The neural reflexes can happen on the sympathetic, the parasympathetic and the motor nerves. The excessive neural stimulus are also risk factors or etiologies to migraines, to muscle tenderness, to disturb glands secretions, and can amplify the aches and their continuance.

5- Cervical Muscle tenderness and hypertrophy: The central nervous system aching, defensively reacts and increases the tonus of some cervical muscles in order to reduce the head movements, so reducing the disturbs in the Cerebrospinal and Inner ear’s fluid pressures which could worsen the aches. This is a natural immobilization. This is known as Tension-type headache, but it occurs also with migraines.

“For the total group, (muscle contraction/tension-type n = 19 and common migraine without aura, n = 28), 77% of all subjects and 89% of females exhibited a marked reduction, absence or reversal of the normal cervical lordosis. Ninety-seven percent of all subjects exhibited, on dynamic X-ray studies, at least one significant abnormality of segmental mobility from (cervical vertebrae) C1 to C7, while 43% exhibited abnormalities at four or more segments. Segmental motion at C0-C1 was reduced in 90% of subjects in flexion and 70% of subjects in extension. On motion palpation, 84% of common migraine without aura and muscle contraction/tension-type subjects were found to have at least two major fixations from C0 to C2.” (Vernon H, and others).

“Individuals with transformed migraine had numerically inferior cervical range of motion in all parameters, and significant reduction in 3 of them: extension, left lateral flexion, and right rotation. Individuals with episodic and transformed migraine have decreased cervical range of motion.” (Bevilacqua-Grossi D, and others).

When this cervical muscle tenderness occurs frequently, it causes neck's muscle hypertrophy: “Boys with migraine had significantly larger cross-sectional area of both right sternocleidomastoid and combined right sternocleidomastoid and scalenus muscles, and left semispinalis capitis muscle and combined left semispinalis and splenius muscles than boys without headache... In boys, unilaterally increased size of neck flexion and extension muscles is associated with migraine.” (Oksanen A, and others).

6- Neural definitive lesion: As glaucoma, stroke, etc.

All these above 6 types of neural signs and symptoms can happen together: One example is the lonely high intraocular pressure with glaucoma, which stretches the Optic Nerve (2nd. Cranial nerve) at the Optic Disk. This primary pathological sensation is felt as:

  a) Primary ache: Felt by the Trigeminal nerve (Ophthalmic division of the 5th. cranial nerve), which goes to the brain stem and to the brain cortex, where it is felt as an ache in the eye or behind it. This primary neural aching (nociceptive) sensation usually can cause:

  b) Primary Migraines without aura, or headaches, or Cluster Migraines in the ocular, orbital, frontal or temporal head areas.

  c) Allodinia at the Optic Nerve: Photophobia (Light sensitivity).

  d) Alldynia at another nerve: Secondary Tension-Type Migraines is felt at the nape, area of the 2nd. cervical nerve, because there is a neural convergence mechanism between the cervical and trigeminal nerves in the Trigeminal Nucleus Caudalis, in the Central Nervous system.

  “Nociceptive information from the trigeminal and cervical territories activates the neurons in the trigeminal nucleus caudalis that extend to the C2 spinal segment and lateral cervical nucleus in the dorsolateral cervical area. The overlap between the trigeminal nerve and cervical is known as a convergence mechanism.” (Piovesan E J, and others).
e) **Parasympathetic Neural reflex**: It can cause excessive tears by a parasympathetic stimulus to the lachrymal gland: The aches from the 1st. division of the 5th. Cranial nerve (Trigeminal) go the brain stem, transmit this pathological sensations to the fibers of the Facial nerve (7th. Cranial nerve), whose stimulus go to the sphen-o-palatine ganglion in the nose, to the Maxillary nerve (2nd. division of the 5th. Cranial nerve), and then to the Lachrymal nerve, which is originated from the Ophthalmic (1st.) division of the 5th. Cranial nerve.

f) **Parasympathetic Neural reflex**: It can cause miosis (pupil contraction), which is a parasympathetic stimulus from the oculomotor nerve (3rd. Cranial nerve) to the Nasociliary ganglion behind the eye, and short ciliary nerves to the eye. This is another connection in the brain stem.

g) **Parasympathetic Neural reflex**: It can cause vasodilation of the conjunctiva (“eyes” redness) and in the eyelids (“eyes” edema). These are parasympathetic stimulus, probably via the brain stem and the 3rd. Cranial nerve.

The distinction between these aches is provided by local anesthesia in the migraine patients: “The sphenopalatine ganglion block induced by intranasal Lidocaine causes reduction of the Migraines but the Allodynia remained unchanged in spite of the pain relief... During migraine attacks 63% of the patients presented with ipsilateral lacrimation (tearful), 50% with ipsilateral nasal congestion, and 36% with rhinorrhea...The intranasal lidocaine application stopped the tearfulness, decongested the nose, and ended the rhinorrhea in almost all cases.” “From the 15 (patients that) experienced the pain only within the frontal region of the cranium … nasal lidocaine reduced the pain (by more than 50%) in 8 patients”. “In 7 (54%) of the 13 cases in which we documented the changes in pain intensity over both the frontal and occipital regions, the application of nasal lidocaine reduced (only) the frontal pain selectively.” (Yarnitsky D and others). **Explanation**: In a patient with aches from the Optic Nerves stretched by the Cerebrospinal Fluid Hypertension, the anesthesia of the Sphenopalatine ganglion blocks part of the frontal Migraines from the neural reflex causing the intra-nasal edema, and also blocks the neural reflexes of tearfulness, nasal congestion and rhinorrhea caused secondarily at the parasympathetic fibers that stimulate the lacrimation and pass by this ganglion. It can not block all the other body’s nerves that present allodynia consequent to their squeezing by the Cerebrospinal Fluid Hypertension. It also cannot block the occipital migraine, which is caused by the connections in the central nervous system between the 5th. cranial nerve (Trigeminal) and the Greater Occipital Nerve.

To elucidate precisely which Migraines are from the stretch of the Optic Nerve’s Lamina Cribosa, it is necessary to anesthetize the Ciliary ganglion behind the eye, by the retro-bulbar block during the Migraine crisis, and verify the aches reduction. We suppose that no doctor has ever done this.

The aches reduction by Trigeminal ganglion block, applied to patients with Trigeminal neuralgia, blocks all facial neural aches: those primary caused by the suffering nerve, or caused by the Trigeminal ganglion compressed by the Cerebrospinal Fluid’s Hypertension, and those neural reflexes secondary to the primary aches: “Trigeminal ganglion block commonly is used for diagnostic and prognostic purposes when considering trigeminal neurolysis for patients with trigeminal neuralgia” (Wheeler AH). The anesthesia of the Trigeminal ganglion blocks all the sensory nerves from the face, including the aches originated in the Optic Nerves.

The anesthesia, or surgical excision, of the Greater Occipital nerve in a patient with "tension" migraine, blocks only the allodynia of this nerve, which has no pathology: it has only secondary aches.

**XII s) Fluids hypertension caused by cardiac patent foramen ovale or intrapulmonary right-to-left shunt:**
In the patient with patent cardiac foramen ovale or intrapulmonary right-to-left shunt, the pathophysiology is:
- The venous blood with few oxygen and low carbonic gas passes from the right to the left cardiac atrium, mixing with the arterial blood.
- This venous blood with few oxygen and with carbonic gas goes with the arterial blood to the eyes and brain.
- The brain and eyes, receiving blood with low oxygen and high carbonic gas, present arterial vasodilation and auras.
- The vasodilation increases the blood serum exudation and fluids’ secretions, which increase the ocular, inner ears and cerebrospinal fluids’ pressures.
- Whether the fluids already are at a high pressure caused by other risk factors, the adding up of more this one pressure can cause migraines. So, the addition of risk factors become etiologies.
- Whether the migraine’s pressure level is not attained, the patient has auras without migraines, the denominated “Acephalgic Migraines”.
- Whether the arterial blood has too few oxygen, the patient can suffer an ischemic brain stroke, or other damage.

The patient with patent foramen ovale is lifelong prone to suffer the signs, symptoms and sicknesses of the Fluids Hypertension Syndromes, more than other people without this cardiac damage. This risk factor (patent foramen ovale) causes more migraines when in addition with some condition which raise the venous blood pressure in the cardiac right atrium, which are:
- Valsalva maneuver.
- Breath with high-pressure air.
- Pulmonary arteriovenous malformation.
- Head-down positions.

These are other risk factors. Together with the patent foramen ovale, they turn to be etiologies of migraines.

In the patients with migraines, “Massive right-to-left shunt (patent foramen ovale) appeared in 38.9% of migraine with aura and in 6.5% of migraine without aura. Migraine with aura patients identified at least one Valsalva-provoking activities as headache trigger in 45.8%.” (Tembl J, and others).

The surgical closure of the cardiac patent foramen ovale and of the arterio-venous malformation improves or cures most migraines with aura:

“Percutaneous transcatheter closure of patent interatrial communications results in significant amelioration of Migraine headache in 87% of patients (complete resolution in 24% and significant improvement in symptoms in 63%).” (Dubiel M, and others).

Similar pathophysiology occurs with the Hereditary haemorrhagic telangiectasia, which “is a genetic disorder characterized by epistaxis, telangiectasia and visceral vascular manifestations. It is associated with migraine with aura due to pulmonary arteriovenous malformations. Lifetime prevalence of migraine was higher in Hereditary haemorrhagic telangiectasia patients (39.6%) than in controls (19.8%).” (Marziniak M, and others).

XII t) Cardiac damage and hypothyroidism, with and without blood shunting from right to left, and from left to right, cause the Fluids hypertension.

“In 395 patients from the UCLA Adult Congenital Heart Disease Center,… the frequency of migraine headaches was 52% in the right-to-left shunt group, 44% in the left-to-right, and 38% in the no shunt group. In patients with a right-to-left shunt who underwent surgical repair, 47% had complete resolution of migraine headaches, whereas 76% experienced >50% reduction in headache days per month.” (Truong T, and others).

The probable pathophysiology is that the congenital cardiac damage and hypothyroidism cause unstable supply of oxygenated blood to the brain, with occasional hypoxia (low O2), sometimes in addition with the accumulation of carbonic gas (CO2). The ischemia and/or the excess of carbonic gas causes the brain's vascular dilatation, the fluids’ pressures ups and downs, auras and migraines.

XII u) Cranial (cerebral) venous sinus thrombosis and stenosis, and Jugular vein thrombosis cause the Fluids Hypertension Syndromes:

The Cranial (cerebral) venous (dural) sinus thrombosis and the Jugular vein thrombosis are caused by cranial trauma, meningitis, and other etiologies. The venous sinus thrombosis can recover but it remains a sinus stenosis, verifiable by a magnetic resonance venography. The stenosis chronically difficulties the venous blood return from the brain and eyes, causing chronic increased venous pressure and excessive fluids’ exudation. They can cause the Cerebrospinal Fluid's and Ocular Hypertension syndromes, with respective migraines and variants:
“Of patients with **migraine**, 6.7% had bilateral transverse sinus stenosis; 67.8% of these patients had idiopathic intracranial hypertension without papilledema”. (Bono F, and others).

“Among the 198 patients with **chronic tension-type headache** who underwent magnetic resonance venography, 18 (9%) had bilateral transverse sinus stenosis. Thirteen of these 18 patients with bilateral transverse sinus stenosis underwent lumbar puncture, and nine (69.2%) had idiopathic intracranial hypertension without papilledema.”(Bono F, and others).

**XII v)** **Vicious cycles worsening and lengthening the migraine:** There are some vicious cycles which can turn a short and mild disturbance or headache into a strong and lengthened migraine. Here are four vicious cycles, but there must be others:

1- Any strong ache causing physical stress; releasing adrenaline (Epinephrine), cortisone, vasopressin, other vasoconstrictors, and causing neural reflexes; causing vasoconstriction and water retention; causing rebound vasodilation and fluid’s exudation; causing Cerebrospinal fluid pressure rising; causing more aches and migraines.

2- Fear of more aches or psychological stress, causing respiratory inhibition, causing few oxygen (O2) and excessive carbon dioxide (CO2) in the arterial blood, causing vasodilation in the brain and eyes, causing excessive fluids liberation, causing Fluids Hypertension, causing aches and the fear of more aches.

3- Little migraines with inadequate medicament or excessive hydration, causing more fluid’s secretion and retention, causing more Fluid Hypertension, causing bigger and stronger migraines.

4- A little Cerebrospinal fluid pressure rise, compressing the Pituitary gland and releasing excessive vasopressin, which causes water retention by the kidneys, increasing the Cerebrospinal fluid pressure, causing migraines and compressing more the Pituitary.

**XII w)** **All these fluids are constantly drained.** In the entire body, all the extra-cellular fluids are physiologically drained continuously by venous capillaries, lymphatic system, Schlemm canal, resorption, or other. Meanwhile, the choroid and retina, the brain, and the inner ears have no lymphatic drainage, which turns these spaces prone to retention of any exuded liquid.

**We conclude that the pathophysiology common to the three Fluids Hypertension Syndromes is:**

a - Many etiologies cause the excessive fluids exudation from the arterial capillaries.

b - When the drainage in that place is sufficient for that excessive volume, the extra-cellular fluid is drained and nothing occurs.

c - When the drainage is insufficient and in a soft expansible tissue, it swells as an edema.

d - When the drainage is insufficient and in a closed space, the extra-cellular fluid pressure raises and the stretched structures aches as migraines and variants.

e - When the stretched structure is a nerve in a hard lamina cribosa or foramen, the passing by nerve fibers suffer the consequent damage.

f - When the squeezing fluid pressure surpasses the arterial perfusion pressure at any place, it causes the collapse of the arterial supply and the ischemia causes its damage.

**XII x)** **Pathophysiology of the Optic Nerve’s Lamina Cribosa:**

a- Part of it is described above, at the chapter: “IX – The Optic Nerve’s Lamina Cribosa Pores – Visibility and Pathophysiology.”

b- **As bigger is the glaucomatous cup, it is easier to worsen it**, by 2 vicious cycles:

b1- The same intraocular pressure measured in mmHg varies over the Optic Nerve's disk when it is measured in grams per square millimeter, because the disk's surface area varies. How bigger is the disk's surface, so bigger is the intraocular pressure in grams over it. As the glaucomatous disk's cup increases, so the total surface of the disk's borders in addition to the inner cup surface also increases, and consequently also increases the pressure in grams over it, even with a steady pressure in mmHg.

This increasing pressure in grams turns the Optic Nerve's glaucomatous big cup more prone to increase more and more the same cup, worsening the glaucoma. It is a vicious cycle.

b2- As the glaucomatous Optic Nerve's cup increases, more distended, thin and weaker becomes the
Lamina Cribosa, to resist against the intraocular pressure. So, the intraocular pressure can easily distend more and more the lamina cribosa and worsen the glaucoma. It is another vicious cycle. Both vicious cycles are seen at the Scheme XII-2.

Scheme XII-2: The total intraocular pressure over the lamina cribosa increases in grams as increases its inner square millimeter surface, even with the same mmHg pressure. On a small Optic nerve disk with 2.15 square millimeter of area, an intraocular pressure of 16 mmHg causes 0.468 grams of pressure over the disk. On a glaucomatous disk, the same 16 mmHg of intraocular pressure causes more than 1.0 gram of pressure over the disk, and the lamina cribosa already is distended and weaker.

We conclude that it is better to medicate the beginning of the raising intraocular pressure at the migraine phase and simultaneously to prevent the glaucoma, than years later to try to stop the progressive glaucomatous big cup already with visual lesion.

XII y) Ocular Hypertension Syndrome. The patient who presents intraocular Aqueous Humor outflow or resorption deficiency has intraocular hypertension compared with the smaller Cerebrospinal fluid pressure at the other side. This causes the Optic Nerve’s disk squeeze from inside the eye towards the Optic Nerve. As bigger is this differential between the intraocular pressure and the Cerebrospinal fluid pressure, so bigger is the glaucomatous propensity. The patient feels this hydrodynamic squeeze mainly as Cluster (at the forehead or on the eyes) and Tension (at the nape) Migraines or many other interchangeable signs or symptoms.

This increased difference between the intraocular pressure and the Cerebrospinal fluid pressure on the Lamina cribosa's both sides, already was measured by lumbar puncture on 28 patients who had primary open-angle glaucoma:

“The mean cerebrospinal fluid pressure was 13.0 mmHg in nonglaucoma patients and 9.2 mmHg in primary open-angle glaucoma patients. The cerebrospinal fluid pressure was lower in primary open-angle glaucoma patients… Cup-to-disc ratio correlated independently with intraocular pressure, cerebrospinal fluid pressure, and the translaminar pressure difference... Larger cup-to-disc ratio was associated with lower cerebrospinal fluid pressure. Cerebrospinal fluid pressure is significantly lower in primary open-angle glaucoma patients compared with that in non-glaucomatous controls.” (Berdahl J P, and others).
Whether this rise of intraocular pressure is too intense or remains too long, it causes ischemia of the Retinal ganglion cells and Optic Nerve’s fibers, it kills them and reduces the retinal nerve fiber layer thickness in the eyes, it increases the Optic nerve's cup and the pores visibility at the Lamina Cribosa, which results in visual field definitive partial loss, or say, in Glaucoma (Scheme IX-2, repeated).

**Scheme IX-2** repeated: Intraocular pressure higher than the smaller Cerebrospinal Fluid pressure at the other side of the lamina cribosa.

The higher intraocular pressure causes 4 distinct pathophysiologies:

a- It squeezes the Optic Nerve’s disk, causes atrophy of the Optic Nerve’s fibers, increases the disk’s cup, allows the visibility of the Lamina Cribosa's pores, aches as Migraines and can result in Glaucoma.

In “57 eyes of 57 patients with migraine with or without aura... The mean retinal nerve fibre layer average thickness parameter was found to be thinner in migraine patients. In addition, we found a strong correlation between migraine severity and retinal nerve fibre layer average thickness parameters.” (Martinez A, and others).

b- It squeezes the arterial blood circulation at the Central Retinal Artery and at the Choroids, causing retinal ischemia, small infarcts seen as small flame hemorrhages or soft exudates, neuronal cells death, atrophy of the retina and choroid, and all of this also results in glaucoma.

“Those persons sustaining retinal vein occlusion were older, had higher intraocular pressure, and were more likely to have definite or probable glaucoma at the baseline examination.” (Klein B E, and others).

c- It squeezes the venous blood circulation, mainly at the arterial-venous crossings and at the border of the Optic Nerve’s cup, causing the venous blood retention in the Central Retinal Vein and its branches, and promotes its thrombosis (occlusion).

“Branch retinal vein occlusion was associated with larger optic disc area (OR highest vs lowest ter-
tile, 4.70), larger cup area (OR highest vs lowest tertile, 4.80) and larger cup-disc area ratio (OR high-
est vs lowest tertile, 4.44). Quantitative optic disc parameters (optic cup and disc area) are associated with branch retinal vein occlusion, even in non-glaucomatous eyes. Optic nerve head morphology may play a role in branch retinal vein occlusion pathogenesis.” (Chan E W and others).

d- It increases the spontaneous central retinal venous pulsation.

As the intraocular pressure is higher in the supine position (lay down with the belly up) than in sitting or standing up, most glaucomas worsen when the patient is sleeping.

An intraocular pressure peak causes more glaucoma than a steady pressure rise: “We imaged individual ganglion cells in isolated rat retinas before and after short hydrostatic pressure increments.
We found that slowly rising pressure to peaks...(50-90 mmHg) did not damage ganglion cells, whereas a rapid 1 minute pulse to 50 mmHg injured 30% of these cells within 1 hour. The severity of damage and the number of affected cells increased with stronger or repeated insults.” (Resta V, and others).

As the progressive and definitive damage from any sign or symptom from the Ocular Hypertension is the Glaucoma, and as it worsens with the increasing age, the Glaucoma is the main definitive sickness from the Ocular Hypertension Syndrome. Whatever headaches, migraines, variants, other signs or symptoms the patient feels for 10, 20, 30, or 40 years, provided he lives enough, his ending sickness probably will be the Glaucoma.

We conclude that the glaucoma is consequent as to steady as to occasional intraocular pressure rise.

XII z) Increased pressures of the veins: Intra-cranial, Cavernous Sinus, Superior Ophthalmic, Inferior Ophthalmic, and Episcleral veins, causing Cerebrospinal Fluid Hypertension and Ocular Hypertension. The Valsalva maneuver.

There are pathologies which raise the intra-cranial venous pressure, sequentially increasing the venous Cavernous Sinus pressure, and sequentially increasing the superior and inferior Ophthalmic Veins pressures which drain the blood from the eye, increasing the Aqueous Humor secretion and can cause intraocular exudation and hemorrhages, and causing the glaucoma.

The elevated superior and inferior Ophthalmic venous pressures also increase the Episcleral venous pressures, which drain the Aqueous Humor from the eye, and consequently they also raise the intraocular pressure and cause the glaucoma.

“Associated with an increased episcleral venous pressure is a rise in intraocular pressure which, if of sufficient magnitude and duration, may cause cupping of the optic nerve and visual field loss”. (Bigger JF).

A strong etiology to this pathophysiology is the Valsalva Maneuver:

Valsalva maneuver, for evacuation, for weight lifting, etc. It causes many pathologies, with at least five pathophysiology that affect the fluids' pressures, and causes the Normal (Peak) Tension Glaucoma.

“Power athletes routinely utilize the Valsalva maneuver during weightlifting. There are reports of stroke, cerebral hemorrhage, subarachnoid hemorrhage, conjunctival, foveal and retinal hemorrhage, retinal detachment, hiatal hernia and pneumothorax associated with weightlifting. These events are thought to occur secondary to the extreme pressure elevations that occur in the intra-abdominal, intrathoracic, intra-cranial, intra-ocular and vascular compartments. All 11 subjects resting intra-ocular pressure were within normal ranges (mean 13 +/- 2.8 mmHg). Intra-ocular pressures were significantly elevated in each subject during maximal contraction (mean 28 +/- 9.3 mmHg). One subject's intra-ocular pressure reached 46 mmHg during maximal contraction.” (Dickerman R D, and others).

1. The first ocular effect of the Valsalva maneuver is a sudden rise of the intra-cranial venous pressure, which raises the Central Retinal Vein pressure, which together with low or physiologic intraocular pressure, can cause hemorrhages in the eye, known as Valsalva's Retinopathy.

“The clinical calling card of the Valsalva's hemorrhage is its well-encased appearance between the retina and the posterior hyaloid face of the vitreous humor.” (Valsalva’s retinopathy).

2. The second ocular effect of the Valsalva maneuver is the rise of the intraocular pressure, consequent to the raise the superior and inferior Ophthalmic Veins’ pressures, causing strong migraines and glaucoma.

“Significant elevation of the intraocular pressure, narrowing of the anterior chamber angle recess, thickening of the ciliary body, and increase in the iris thickness is seen during the Valsalva maneuver. The Valsalva maneuver (standardized to a pressure of 40 mmHg for 15 seconds) may lead to angle closure in eyes anatomically predisposed to primary angle closure glaucoma.” (Dada T, and others).
This sudden rise of intraocular pressure can be felt as the cluster headache: “In the episodic cluster headache group, during symptomatic periods, between attacks, Valsalva manoeuvre elicited an asymmetric increase in intraocular pressure with significantly higher values on the symptomatic side, whereas no asymmetric increments in intraocular pressures were found during asymptomatic periods. The increment in intraocular pressure took place within a few seconds, as in spontaneous episodic cluster headache attacks.” (Barriga F J, and others).

On weight lifting, “mean intraocular pressure during exercise in mode I (the breath was held during the last repetition) increased by 4.3 ± 4.2 mmHg. In mode II (subjects exhaled normally during the last repetition), mean intraocular pressure increased by 2.2 ± 3.0 mmHg. The intraocular pressure increased in 90% of subjects in mode I and in 62% in mode II. An increase in intraocular pressure greater than 5.0 mmHg was observed in 9 subjects (30%) in mode I and in 6 (21%) in mode II. In 2 subjects, intraocular pressure during exercise mode I was markedly increased (>10.0 mmHg).” (Vieira G M, and others).

3. The third effect of the Valsalva maneuver is the rise of the Cerebrospinal fluid pressure, consequent to the rise of the intra-cranial venous pressure. This can be felt as a headache. Whether this Cerebrospinal fluid hypertension reaches higher values than the arterial pressure in the brain, it can cause ischemic damage anywhere in the brain.

4. The fourth effect of the Valsalva maneuver is a reduction of the blood supply to the brain, with few oxygen and accumulation of carbonic gas: “Profound reductions in middle cerebral artery blood velocity (mean) were observed … during the maintained Valsalva maneuver (-21 +/- 3% together with an elevation in central venous pressure to 40 +/- 7 mmHg). Responses to performance of the Valsalva maneuver with and without exercise were similar…” (Pott F, and others).

5. The fifth effect of the Valsalva maneuver is a stimulus to the right-to-left blood shunt in the heart which has patent foramen ovale, or in the lung which has artery-venous malformation. This causes the venous blood with excessive carbonic gas and few oxygen to be distributed to the brain and the whole body together with the arterial blood. It causes vasodilation in the brain’s arteries, auras and migraines, besides other pathologies.

Other etiologies, similar to Valsalva maneuver, also raise the cranial venous pressures and can cause the glaucoma:
A- Queckenstedt test.
B- High resistance wind instrument playing.
C- Sirsasana (Shirshásana) (headstand) yoga posture.
D- Tight neckties.

A- Queckenstedt test: The manual pressure applied to both jugular veins to elevate the cranial venous pressure, known as the “Queckenstedt test”, also cause the firsts three above effects, rising simultaneously the Cerebrospinal, Intraocular and Inner Ears Fluids pressures, and worsening the migraine's aches: “The Queckenstedt test (30 seconds on 39 patients with acute migraine attacks) aggravated headache intensity in both sitting and supine positions. The presence of throbbing pain and higher pain intensities was associated with the Queckenstedt test effect in the supine position.” (Chou C H, and others).

B- High resistance wind instrument playing causes Normal (Peak) tension Glaucoma:
“High and low resistance wind musicians experience a transient rise in their intraocular pressure while playing their instruments as a result least in part of uveal engorgement. The magnitude of intraocular pressure increase is greater in high resistance wind (trumpet and oboe) players. High resistance wind musicians had a small but significantly greater incidence of visual field loss than other musicians, which was related to life hours of playing. The cumulative effects of long-term intermittent intraocular pressure elevation during high resistance wind instrument playing may result in glaucomatous damage, which could be misdiagnosed as normal-tension glaucoma.” (Schuman JS, et al.)
This is really a Normal (Peak) tension glaucoma!

C- Sirsasana (Shirshásana) (headstand) yoga posture causes Normal (Peak) Tension Glaucoma:

“There was a uniform 2-fold increase in the intraocular pressure during Sirsasana, which was maintained during the posture in all age groups irrespective of the ocular biometry and ultrasound pachymetry.” (Baskaran M, and others).

D- Tight neckties causes Normal (Peak) Tension Glaucoma:

“A tight necktie may cause an increase in Intraocular Pressure in susceptible individuals and should be included among the confounders of accurate intraocular pressure measurement and considered as a risk factor for increased intraocular pressure.” (Teng C, and others).

This is a similar pathophysiology of the Queckenstedt test explained above.

XII aa) Central Retinal Venous Pulsations and Ophthalmo-dynamometry:

Physiologically, the intraocular pressure is a little higher than the Cerebrospinal fluid pressure. This allows the drainage of the blood from the Central Retinal Vein from inside the eye, passing by the middle of the Optic Nerve, which is physiologically and continuously stretched by the Cerebrospinal fluid pressure. The Central Retinal venous blood must have its pressure a little higher, to surpass that Cerebrospinal fluid pressure and continually drains: “Under normal conditions, pressure within the central retinal vein is equal to or greater than Intra-Cranial Pressure, because the central retinal vein passes through the optic nerve before it drains into the cavernous sinus...The results indicated a highly significant linear correlation between central retinal vein pressure and intracranial pressure.” (Firsching R, and others).

Physiologically, the Cerebrospinal fluid pressure ups and downs around 1 mmHg together with the arterial pulse, and the intraocular pressure does the same but around 3 mmHg. So, the blood in the Central Retinal Vein present cycles of drainage with emptying (at cardiac systole), and retention with engorgement (at cardiac diastole), following the cardiac and arterial pulse, visible with direct ophthalmoscopy, and denominated as Spontaneous Central Retinal Venous Pulsations. (Jacks A S, and Miller N R).

“The (central retinal) venous diameter decreased in early systole, increasing thereafter to a maximum level in early diastole and then declined towards end diastole.”(Chen H C, and others).

When the Cerebrospinal fluid pressure is constantly higher than the intraocular pressure, there is a chronic stasis of the blood in the Central Retinal Vein, this vein engorges and there is no more spontaneous venous pulsations.

“Spontaneous venous pulsations were present in 87.6% of 146 unselected subjects and absent in 100% of 33 patients with raised intracranial pressure without papilledema and 10 patients with papilledema. Lumbar puncture in nine patients with raised intracranial pressure established the upper level at which spontaneous pulsations disappear as 190 mm H2O, and no pressure above 180 mm H2O was found in 29 patients with venous pulsations present prior to lumbar puncture. Some normal subjects with absent pulsations showed definite pulsations on subsequent examinations.” (Levin B E).

When the patient has glaucomatous damage in his Optic Nerve’s disk, he can present two possibilities:

A – There are spontaneous central venous pulsations: This means that on that moment the intraocular and the Central Retinal Vein pressures are higher than the Cerebrospinal fluid pressure.

B – There is no spontaneous central retinal venous pulsation: This means that at this moment the Cerebrospinal fluid pressure is higher than the intraocular and central retinal vein pressures. To cause the central retinal venous pulsations in this patient, it is necessary to apply extra force over the eye, increasing his intraocular and central retinal vein pressures, in order to surpass the Cerebrospinal fluid pressure. This extra force is denominated Ophthalmodynamometric Force.

“Venous dynamometry in vivo means that we use the onset of the venous collapse phenomenon to register the pressure in the central retinal vein at the point where it leaves the eye.” (Meyer-Schwickerath R, and others).
In the eye without venous or glaucomatous damage, the central retinal venous dynamometry is a non-invasive exam that measures the Cerebrospinal fluid pressure.

“Significantly fewer glaucoma patients (54%) were observed to have spontaneous venous pulsation than suspects (75%) or normals (98%). A worse visual field mean deviation was shown to be the most significant predictor of a higher ophthalmodynamometric force... A strong relationship between ophthalmodynamometric force and (visual field damage) mean deviation was found in the glaucoma patients.” (Morgan W H, and others).

In a glaucomatous eye, this force is predictive of a worst evolution of its glaucoma.

“Forty three patients (with glaucoma or suspected glaucoma) had no spontaneous venous pulsation at the initial visit, with a mean Ophthalmodynamometric force of 13.4 g...In all, (after 6 years) 28% of eyes without spontaneous venous pulsation had increased excavation compared with 14% of eyes with spontaneous venous pulsation...Ophthalmodynamometric force was found to be highly predictive of increased excavation.” (Balaratnasingam C, and others).

“Eighty-three patients with glaucoma had no spontaneous venous pulsation. There was a strong association between differences in hemifield sensitivity loss and in hemivein Ophthalmodynamometric force... Lower hemivein Ophthalmodynamometric force was independently associated with upper field loss and upper hemivein Ophthalmodynamometric force with lower field loss. These venous pulsation findings in glaucoma are independent of blood pressure. The hemifield and hemivein association suggests that the major hemivein change is adjacent to the site of major disc damage.” (Morgan W H, and others).

We conclude that the absence of spontaneous pulse of the central retinal vein is consequent to the elevated Cerebrospinal fluid pressure at that moment. It is a signal of a future glaucomatous damage (glaucomatous Optic neuropathy) in that eye.

XII ab) Where, why and when does it occur the lesion of the glaucoma?

I - The elevated intraocular pressure associated with a normal or low arterial pressure, result in a low arterial perfusion pressure in the retina. This, causes ischemia (few arterial blood) and hypoxia (few oxygen) in the retinal ganglionic cells for minutes or hours. The consequence can be the glaucomatous lesion in the retina, because its ganglionic cells are killed.

II - The elevated intraocular pressure, associated with a normal or low Cerebrospinal Fluid pressure, causes the bending of the Optic Disk's Lamina Cribosa to behind the eye. The lamina cribosa bows more if it is weaker, or thinner, or wider than the normal. This means that this patient has a genetic propensity to the glaucoma. The bowing of the lamina cribosa squeezes the axons of the ganglionic retinal cells, which cause the ganglionic cells death.

This lamina cribosa bending mechanism can be caused in an eye with a normal intraocular pressure associated with a very low cerebrospinal fluid pressure.

III - The elevated intraocular pressure, associated with a previous Optic Disk’s Cup with a sharp edge, causes the squeezing of the arterioles, branches of the Central Retinal Artery, when they bend to pass by this edge. The glaucomatous pit (optic disk’s cup) is an aggravating factor to the glaucoma evolution. It causes hemorrhages and notches of atrophy at the Optic nerve's border, arched retinal lesions, arches and steps in the visual chart. To stop the arterial blood flow bending its artery is just like to stop the water flow bending its tube.

As the glaucomatous Optic nerve's head cup increases, more axons and arterioles bend and with smaller intraocular pressure they can be stretched at the edge and their ganglionic cells be killed. This stretched axons and arterioles at the bending point enables the next glaucomatous lesion to occur with smaller intraocular pressure, than that higher pressure necessary at the beginning of the glaucoma. This ganglionic cells killing mechanism III can occur with smaller intraocular pressure than the other two I and II, because it has the edge effect of bending the artery and the axons to increase the squeezing effect.

IV – The high Cerebrospinal Fluid pressure stretches the central retinal vein behind the eye, causes the blood retention in the eye, many patophysilogies, and also the rise of the intraocular pressure and ischemia of the retina. This blood retention in the central retinal vein in the eye is an ischemic factor to worsen the ganglionic cells killing of the glaucoma. The best ways to lower the cerebrospinal fluid
pressure are the diet and the head-down posture avoidance.

We conclude that as worse is the glaucomatous lesion, it is easier to increase its lesion. The glaucoma prevention and treatment must begin when there are only headaches and migraines caused by the occasional intraocular or cerebrospinal fluid hypertensions, without any glaucomatous Optic nerve's cup.

The prescription of medicaments which only relieve the headaches and migraines, and the postponing of the intraocular pressure lowering for only when there is a big glaucomatous cup, are bad medicines and harmful to the patients. Unhappily, these are the medical preferences today:

- The neurologists medicate the “headaches” and “migraines”, and do not lower the intraocular pressure or the cerebrospinal fluid pressure.
- The otorhinolaryngologists medicate and operate the “allergic rhinitis” and “sinusitis”, and do not lower the intraocular pressure or the cerebrospinal fluid pressure.
- The orthopedists medicate and operate the “neck aches” and “vertebral disturbs”, and do not lower the intraocular pressure or the cerebrospinal fluid pressure.
- The ophthalmologists examine, examine, and conclude that “it is not yet a glaucoma” and also do not lower the intraocular pressure or the cerebrospinal fluid pressure.
- The result of all this is that the patient, with the most modern medicine available today, has its glaucoma progressing and aching, untouched by any efficacious treatment, until it is too late to stop it.

Many medical doctors forget that headaches and migraines are symptoms of some sickness. Headaches and migraines are not sickness by themselves. Whenever possible, we physicians must medicate and cure the sickness that cause the symptoms, and not only to alleviate its aches.
XIII) - Cerebrospinal Fluid Hypertension Syndrome: Pathophysiology and sicknesses.
(Idiopathic Intracranial hypertension without papilledema)
(Benign intracranial hypertension)
(Pseudotumor cerebri).

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m - Cerebrospinal Fluid Hypertension squeezing the Brain, the Spinal Cord and the Pituitary gland.
n - Inner Ears Fluids Hypertension Syndrome.
o - Usually the three Fluids Hypertension Syndromes happen mixed in the same days, but not at the same hours.
a. **Introduction and Pathophysiology of the Cerebrospinal Fluid Hypertension**: In the patient with Cerebrospinal Fluid outflow or resorption deficiency, the Cerebrospinal Fluid Hypertension can squeeze all nerves in it and at their exits from the cerebrospinal space, and this means all the nerves of the body. This hydrostatic squeeze causes Migraines, variants, and most of the signs, symptoms and sicknesses listed above at the summary. It is the most pathogenic of the three Fluids Hypertension Syndromes.

**Beer, water, caffeine and many sicknesses:** *We had a 30-year-old nurse, no child, 1.58 meters (5 feet and 2 inches) tall, 51 Kilograms (112 pounds), mulatta (father black and mother white), complaining of eye’s aches when turning them, ethmoidal sinusitis, obstructive rhinitis, premenstrual tension and aches in both knees. She used to drink water 3,300 milliliter (nearly one gallon) daily in order to medicate constipation, coffee 200 milliliter (seven fluid ounces) and guaraná 600 milliliter (20 fluid ounces) daily. She medicated the aches with caffeinated analgesics. She used to drink beer, but the systematic next day hangover made her stop them. On ophthalmoscopic examination we found in both eyes Optic Nerve’s Disks with 0/0/0/1 (Cup diameter/cup depth/lamina cribosa pores/borders edema), which configures the Cerebrospinal Fluid Hypertension Syndrome. Her intraocular pressures were 14 and 12 mmHg (physiologic) right and left eyes.*

In a person with genetic disposition to retain water, the caffeine and excessive water drank daily caused all these signs and symptoms. The cure is easy and difficult at the same time: it is easy to prescribe her to stop the excessive water and caffeine drinks, but it is very difficult for her to accomplish this.

When the Cerebrospinal fluid pressure rises with more intensity and continuously, the patient suffers few aches and more neurological damage, known as Pseudotumor Cerebri, or Benign Intracranial Hypertension, or Hydrocephalus.

**The main signs and symptoms of the Cerebrospinal Fluid Hypertension are:**

**XIII-**b- **Cerebrospinal Fluid Hypertension Migraines and aches (pain):** The Cerebrospinal Fluid Hypertension compared with the smaller intraocular pressure, and with the even smaller intra-orbital pressure, causes:

- The hydraulic pressure in the Optic Nerve squeezes the disk towards inside the eye, and the disk aches as Migraines and many alternative signs and symptoms, listed at the Summary above.
  “Sixty-eight percent of patients with idiopathic intracranial hypertension had definable headache disorders, including episodic tension type headache (30%) and migraine without aura (20%).” (Friedman D I, and Rausch E A).
- The rise of the Cerebrospinal fluid pressure in the Optic Nerve’s Dura mater at the orbit, cause its distension. This portion of Dura mater in the orbit has no pressure or bone structure at its outer side to prevent its distension. This is the origin of some migraines which worsen when turning the eyes from one to the other side.
- Many headaches happen on awakening, because the Cerebrospinal Fluid's hypertension occurs when sleeping: On “10 patients with refractory headaches… for continuous cerebrospinal fluid pressure monitoring… Increased cerebrospinal fluid pressure was seen mostly during sleep and was intermittent, suggesting that cerebrospinal fluid pressure elevation may be missed by a single spot-check Lumbar Puncture measurement.” (Torbey M T, and others).
First-of-Ramadan headache: “Headaches were reported by 37 (41%) of the 91 persons who had fasted as compared to 2 (8%) of those 25 who did not fast. The headache was of tension type in 78% of the cases... The most important exogenous-associated factor was caffeine withdrawal. A progressive reduction of caffeine consumption in the weeks preceding the month of Ramadan and a cup of strong coffee just before the start of the fast may prevent the occurrence of first-of-Ramadan headache.” (Awada A, and Jumah M).

The Cerebrospinal Fluid Hypertension Syndrome Migraines:
To better study the patients with Benign Intracranial Hypertension’s Migraines, we selected the 782 patients with any Optic Nerve’s Disk borders edema, even as low as 0.25 dioptre. Whether we select only the patients with evident (0.5 dioptre or more) Optic Nerve’s borders edema from Benign Intracranial Hypertension’s Migraines, we found 243 patients.

These patients presented the following migraines, signs and symptoms (Table XIII-1):

<table>
<thead>
<tr>
<th>Cerebrospinal Fluid Hypertension Syndrome</th>
<th>Optic Nerve’s Borders Edema Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Migraines, Variants, Signs and Symptoms</strong></td>
<td><strong>Only with 0.25 dioptre of edema</strong></td>
</tr>
<tr>
<td>1. Edema of one or both Optic Nerve’s Disks borders</td>
<td>539 (100%)</td>
</tr>
<tr>
<td>2. Patients with all Migraines, signs and symptoms</td>
<td>428 (79.4%)</td>
</tr>
<tr>
<td>3. Patients without any migraine</td>
<td>111 (20.6%)</td>
</tr>
<tr>
<td>4. Wide Frontal Migraine</td>
<td>175 (32.5%)</td>
</tr>
<tr>
<td>5. Worsened at morning</td>
<td>139 (25.8%)</td>
</tr>
<tr>
<td>6. Rhinitis with coryza (rhinorrhea) and Tearfulness (added)</td>
<td>114 (21.2%)</td>
</tr>
<tr>
<td>7. Itching eyes and Blepharitis (added)</td>
<td>110 (20.4%)</td>
</tr>
<tr>
<td>8. Temporal or Head-top (vertex) Migraines</td>
<td>94 (17.4%)</td>
</tr>
<tr>
<td>9. Ocular ache or weight</td>
<td>89 (16.5%)</td>
</tr>
<tr>
<td>10. Worsened at menses</td>
<td>49 (14.4% out of 341 women)</td>
</tr>
<tr>
<td>11. White sheaths on the Optic Nerve’s disk vessels</td>
<td>33 (6.1%)</td>
</tr>
<tr>
<td>12. Eye redness (Eye erythema)</td>
<td>69 (12.8%)</td>
</tr>
<tr>
<td>13. Occipital Migraine</td>
<td>76 (14.1%)</td>
</tr>
<tr>
<td>14. Photophobia (Light sensitivity)</td>
<td>60 (11.1%)</td>
</tr>
<tr>
<td>15. Nausea and retching or vomit or colic</td>
<td>36 (6.7%)</td>
</tr>
<tr>
<td>16. Dizziness - vertigo</td>
<td>29 (5.4%)</td>
</tr>
<tr>
<td>17. Cough (chronic)</td>
<td>29 (5.4%)</td>
</tr>
<tr>
<td>18. Eyelids edema</td>
<td>36 (6.7%)</td>
</tr>
<tr>
<td>19. Sneezing</td>
<td>33 (6.1%)</td>
</tr>
<tr>
<td>20. Obstructive Rhinitis (Nasal congestion or stuffiness)</td>
<td>18 (3.3%)</td>
</tr>
<tr>
<td>21. Diffuse Migraine</td>
<td>24 (4.5%)</td>
</tr>
<tr>
<td>22. Visual perturbation for minutes - Amaurosis fugax</td>
<td>15 (2.8%)</td>
</tr>
<tr>
<td>23. Middle forehead Migraine (Ethmoid)</td>
<td>13 (2.4%)</td>
</tr>
</tbody>
</table>
Table XIII-1: Migraines, Variants, Signs and Symptoms presented by patients with minimal (only 0.25 dioptre) and evident (0.5 dioptre or more) edema of the Optic Nerve’s borders, from the Cerebrospinal Fluid Hypertension Syndrome.

Each patient could present more than one sign or symptom alternatively or simultaneously.

The medicine now-a-days denominate as Papilledema only those Optic Nerve's papillae with 1.5 or 2 dioptre or more of edema, the giants edemas. These are less than 1% of all the patients. Consequently, almost all (nearly 99%) the patients with Cerebrospinal fluid hypertension who have Optic nerves with small borders edemas of 0.25 – 0.5 – 0.75 and 1 dioptre are denominated as “without papilledema”.

Although there were fewer patients with Optic Nerves Borders Edema of 0.5 dioptre or more than with 0.25 dioptre, they presented higher frequencies of many signs and symptoms. The higher frequencies typical from the Cerebrospinal Fluid Hypertension Syndrome were:
- Temporal or Head-top (vertex) Migraines;
- White sheaths at the Optic Nerve’s disk vessels;
- Nausea and retching or vomit or colic;
- Dizziness – vertigo;
- Cough (chronic);
- Obstructive Rhinitis (Nasal congestion or Nasal stuffiness);
- Visual perturbation for minutes - Amaurosis fugax;
- Middle forehead Migraine (Ethmoid); and
- Visual Aura.

The patients with Optic Nerve’s Borders Edema of 0.5 dioptre presented a reduction of Occipital Migraines, but increased many other migraines.

“Presenting symptoms of idiopathic intracranial hypertension are known to vary with age. Older children may complain of headache, neck pain, diplopia, intracranial noises, or transient visual obscurations. Younger children may present with apathy or irritability.” (Weig S G).

These Migraine patients were mild forms of Intracranial Hypertension. As most migraines and variants happen in patients that present only Optic Nerve’s borders edema of 0.25 and 0.5 dioptre, and these mild edemas are actually considered as “normal” by the medical doctors, the patients are denominated as suffering with “benign intracranial hypertension without papilledema”.

We had few patients with its bigger signs and symptoms usual at Optic Nerve’s borders edemas of 1 dioptre.
dioptre or more, as visual losses, deafness, diplopia, third, fourth or sixth cranial nerve palsies.

In Dubai, UAE, “In…50 patients with idiopathic intracranial hypertension...There were 46 (92%) women. Mean age at presentation was 35.7 years. Obesity was the commonest associated factor (32%). Headache was reported in 98% followed by double vision (32%). Papilledema was present in all patients (100%). Perimetric study showed mild peripheral visual field constriction in 56%. Only two patients showed severe field constriction and one of them deteriorated rapidly and she became blind. The mean cerebrospinal fluid pressure was 302.5 mm H(2)O.” (Mezaal M, and Saadah M).

- Curing many illnesses and Migraines by reducing water and caffeine. We had a 66-year-old needlewoman, white, 1.54 meters (5 feet and 1 inch) tall, weighting 66 Kilograms (145 pounds). She complained about many years of cardiac, ophthalmological and other medical disturbs, and took many simultaneous medicaments to arterial hypertension, type II diabetes, headaches on frontal and occipital areas, aches on both eyes, eyes hyperemia, “allergic” conjunctivitis, tearfulness, photophobia, diffuse muscular backaches and gastritis. Besides the medicaments for all of these, she daily drank water 2,000 milliliter (half gallon), coffee 100 milliliter (3.3 fluid ounces), caffeinated “cola” soft drink 500 milliliter (one pint) and over the counter analgesics with caffeine. On her eyes examination we found intraocular pressures 14 and 14 mmHg, shallow anterior chambers, Optic Nerves’ disks with 0.8/4/2/0 and 0.7/4/2/0 right and left eyes (cup diameter/ cup deepness/ lamina Cribosa pores visibility/ borders edema), which characterizes incipient and advanced Normal (Peak) Tension Glaucoma. We told her to stop all caffeine (coffee, soft drinks and analgesics), shorten the water only to the thirst needs, stop the anti-allergic and artificial tears eye drops, and to use only an anti-glaucomatous eye drop (Timolol maleate only at night). After two months, she returned without any of her multiple aches; the photophobia, tearful, gastritis and the backaches also disappeared. She only kept the eyes hyperemia, arterial hypertension and diabetes. This patient presented simultaneous Ocular and Cerebrospinal Fluid Hypertensions: the Glaucoma was evident at the ophthalmoscopy; the Benign Intracranial Hypertension was impossible to corroborate because there was no Optic Nerves’ borders enough to become swollen, but was evident by her backaches. All of this were caused by her daily ingestion of caffeine and excessive water, and all were easy cure or to stop only by diet.

XIII -c- Cerebrospinal Fluid Hypertension squeezing the 1st cranial nerve: The Olfactory nerve fibers (Fila Olfactoria) are squeezed by the Cerebrospinal Fluid Hypertension as they traverse the Cribriform Plate at the Ethmoid bone, which aches at the upper nose or middle forehead and engorges the nasal mucosa. The patient feels this as a chronic Sinus ache, “Allergic Rhinitis”, “Allergic Sinusitis” or “Nose Congestion” without any infection, fever, or purulent secretion. It can cause coryza. This swollen chronic dry “rhinitis” probably is also the etiology of the Nasal Polyps. Some patients have chronically the Olfactory hypersensitivity, which can trigger their migraines. The Cerebrospinal fluid's hypertension worsens their Olfactory hypersensitivity. The allodynia of the squeezed Olfactory Nerve changes the physiologic scents in worsening stimulus to migraines. This is denominated as an Odorophobia.

Nasal Polyps: Probably they are caused by the chronic edema of the nasal mucosa, consequent to the Cerebrospinal Fluid Hypertension squeezing the 1st cranial nerve at his lamina cribosa on the Ethmoid bone.

Sinusitis “allergic”. Sinus Headache: Most of them are not true sinusitis: They are fake! “In this study, 88% of 2991 patients with a history of self-described or physician-diagnosed "sinus" headache were determined to have migraine-type headache. In patients with recurrent headaches without fever or purulent discharge, the presence of sinus-area symptoms may be part of the migraine process.” (Schreiber C P, and others).

We conclude that the surgeries to “allergic sinusitis” are medical errors.
XIII - d - Cerebrospinal Fluid Hypertension squeezing the 2nd cranial nerve: The Cerebrospinal fluid pressure is the main determinant of the blood pressure in the Central Retinal vein, which physiologically drains the venous blood from the retina, in the eye. The Central retinal vein is stretched by the intraocular pressure, by the retro-laminar pressure in the Optic Nerve, and by the Cerebrospinal fluid pressure in the subarachnoid space. When the Cerebrospinal fluid pressure raises, the blood is retained in the Central retinal vein, and this also raises its pressure in the eye and causes many sicknesses in the retina.

“Retro-laminar tissue pressure (in the Optic nerve) was largely dependent on the surrounding cerebrospinal fluid pressure, which was on average 8.6 +/- 3.5 mmHg (standard deviation) higher, and was independent of intraocular pressure... Optic nerve subarachnoid space pressure was equivalent to lateral ventricular pressure.” (Morgan W H, and others).

The Cerebrospinal Fluid Hypertension can cause many Optic Nerve’s disk, retinal, subretinal, choroidal and macular sicknesses, glaucoma, degeneration and blindness, by 11 pathophysiologies:

XIII - d -1) Acute Squeezing the central Retinal Artery in the Optic Nerve.
XIII - d -2) Acute Squeezing the short posterior ciliary arteries that supplies the Optic nerve, Optic disk and the retina.
XIII - d -3) Acute Squeezing the central Retinal Vein in the Optic Nerve.
XIII - d -5) Optic Nerve's Disk Edema spreading in the Retinal Layers, under the retina and through the choroids, to the macula and peri-macular region. Choroidal folds.
XIII - d -6), 7), 8), 9) Chronic Squeezing of the Central Retinal Vein in the Optic Nerve, causing:
XIII - d -6) Chronic increased pressure in the Central Retinal Vein in the eye.
XIII - d -7) Impairing the Interstitial Fluids Resorption in the Retina.
XIII - d -8) Intraocular Pressure Chronic Rise and Glaucoma.
XIII - d -9) Retinal and Choroidal Vascular Leakage.
XIII - d -10) Macular edema, macular cyst, macular hole, vitreous-retinal adhesion epi-retinal membrane.

Each patient can present one or more simultaneous ocular lesions caused by the Cerebrospinal Fluid's Hypertension.

Let's analyze them one by one:

XIII - d - 1) Acute Squeezing the Central Retinal Artery in the Optic Nerve, and
XIII - d - 2) Acute Squeezing the short posterior ciliary arteries that supplies the Optic nerve, Optic disk and the retina.

A peak of the Cerebrospinal Fluid Hypertension which also include around the Optic Nerve, caused by the excessive drinks some hours before sleeping, in addition to the physiologic reduction of the arterial pressure that usually occurs when the patient sleeps, causes the Optic Nerve's edema. This edema, whether a big one and in addition to a congenital small disk, can cause the strangling of the Optic nerve by the scleral canal.

Whether the pressure in the Optic nerve's scleral canal surpasses the arterial pressure, it causes the acute compressive obstruction of:
- as the Central Retinal Artery that supplies blood to the retina,
- as the Posterior Ciliary Arteries that supply blood to the retro-laminar portion of the Optic Nerve.

The consequences are the infarction:
- Or in the retina, known as Retinal Infarction,
- Or in the Optic nerve, known as Nonarteritic Anterior Ischemic Optic Neuropathy (NAION).
- Or the Leber Hereditary Optic Neuropathy.
NAION: The ischemia causes the Optic Nerve’s infarct and more edema. The Optic nerve edema increases the pressure over the Optic Nerve in the scleral canal. This vicious cycle ensures the complete death of the Optic nerve's fibers in few minutes. The compressive arterial obstruction can be temporary, maybe few minutes, but the infarction is definitive. This only can happen when coincide all the above conditions in the same time, and possibly aggravated by some arteriosclerosis. The cerebrospinal fluid pressure doesn't need to be higher than the arterial pressure: It only needs to be high enough to cause the initial Optic nerve's edema, and the vicious cycle in the scleral canal strangles the Optic nerve and completes the NAION.

The NAION is associated with other health disturbs which are worsened by the caffeine, wine and beer: “The presence of other vascular conditions is frequent (with NAION), hypertension, 46.9%; diabetes, 23.9%; myocardial infarction, 11%”. (Younge B R).

The best prevention of the NAION is to avoid drinking its etiologies: caffeine, wine, beer, and excessive water. “The casual definition of NAION is that of a sudden, painless, unilateral, irreversible ischemic event of the intraocular optic nerve without associated systemic disease, which has no effective treatment.” (Mathews, M K).

The Optic Nerve’s infarction usually is painless, because usually it occurs when the patient sleeps, and sleeping the patient feels nothing. The mild Optic Nerve’s borders edema from the Cerebrospinal Fluid Hypertension previously to the NAION, is replaced by an enormous edema secondary to the Optic Nerve’s infarction. For the diagnose of the NAION etiology, it remains: - The mild borders edema and reduced cupping visible by direct ophthalmoscopy in the other eye’s Optic Nerve of the same patient, signal of his Cerebrospinal Fluid Hypertension. - Asking to the patient about his headaches, migraines, signs and symptoms from the Cerebrospinal Fluid Hypertension syndrome, felt days, weeks and years before the NAION. - Asking to the patient about his drinks during the last 2 days and nights before the NAION.

The Optic Nerve's borders edema, from the Cerebrospinal Fluid Hypertension Syndrome, of around 1 dioptre height, before the occurrence of the NAION was denominated as “Incipient Nonarteritic Anterior Ischemic Optic Neuropathy”: “Incipient NAION is a distinct clinical entity, with asymptomatic optic disk edema and no visual loss attributable to NAION.” (Hayreh SS and Zimmerman MB). Other authors denominated it as “Optic Nerve’s Crowded Disk”.

The NAION is a sickness similar to the hangover: both are caused by the excessive drinks few hours before, causing the acute Cerebrospinal Fluid Hypertension at the following night. Both are self-inflicted damage and mild forms of happy suicide.

The Leber Hereditary Optic Neuropathy is probably caused by this Cerebrospinal Fluid Hypertension squeezing the Optic nerve, in a patient with the genetic susceptibility for this lesion. It is an hereditary variant of the NAION.
Cerebrospinal fluid pressure higher than the intraocular pressure.

This can cause:

- Squeezing the Lamina Cribosa towards inside the eye, and it bows and aches as Migraines.
- Squeezing the Optic Nerve’s Dura mater in the orbit, which swells and aches as migraines.
- Chronic edema of the Optic Nerve’s fibers in the eye at the borders of the Optic nerve's disk.
- Spreading these edemas through and under the retina, and through the choroids, to the posterior pole, causing many retinal and macular degeneration.
- Acute squeezing the Central Retinal Vein in the Optic Nerve, causing its thrombosis.
- Chronic squeezing and raising the blood pressure in the Central Retinal Vein and its branches in the eye, causing its branches engorgement, hemorrhages, thrombosis, chronic edemas and degeneration in the Retina.
- Acute squeezing the Central Retinal Artery and the arterial ciliary branches that nourish the Optic Nerve; this can cause the Optic Nerve’s infarct (NAION).

The acute Cerebrospinal Fluid Hypertension can cause acute squeezing of the Central Retinal Vein in the Optic Nerve, which causes the acute retention of blood and rise of the blood pressure in the Central Retinal Vein in the eye. This causes the acute venous engorgement and can result in the Central Retinal Vein Thrombosis, or thrombosis of one of its branches. The thrombosis causes hemorrhages, exudation, and damage in the eye.

Central Retinal Vein Thrombosis caused by beer: We had a black 47-year-old patient, weighting 62 Kilograms (136 pounds), 1.72 meters (5 feet and 8 inches) tall, and arterial tension 120/80 mmHg. He once drank around 9,000 milliliter of beer at a two hours party, and after three days presented on our office with headaches, extreme engorgement of both eyes’ Central Retinal Veins, more than twenty intra-retinal hemorrhages in each eye and small edema of the borders of both Optic Nerve’s disks. The medicine classifies this as Central Retinal Vein Thrombosis in both eyes. There was no other neural damage. Since the first day, we prescribed him to restrain the oral liquids, no beer drinks, and medicated him with oral Acetazolamide 250 mg once a day. After two weeks, a cranial Computer Tomography with contrast shows no damage, which confirms the diagnosis of acute Cerebrospinal Fluid Hypertension Syndrome caused by the excessive beer, which injured his eyes and vanished. He presented slow recovering of all hemorrhagic damage in few months, but kept moderate Central Retinal Veins engorgement. He is still presenting normal visual acuity because he had not any macular damage.

The Cerebrospinal fluid pressure rise can be caused by many etiologies, mainly caffeine and alcohol, causing the increased incidence of Central Retinal Vein thrombosis at Taiwan:

“Our study (from the Taiwan National Health Insurance Research Database) demonstrates significant seasonal variations in the retinal vein occlusion incidence, with the peak occurrence in the winter month of January.” (Ho J D, and others). Unfortunately, these doctors did not correlate this occurrence with the probable increase drinking of caffeine, from coffee and chocolate, or alcohol, in the winter.
Central Retinal Vein Branch Thrombosis and Cerebrospinal Fluid Hypertension caused by cigarettes, caffeine, beer and excessive water: We had a housewife with 55-year-old, 1.60 meters tall (5 feet and 3 inches), 60 kilograms (132 pounds) of weight, two children. She had half-Indian and half-French ancestors. She presented a story of one Central Retinal Vein Branch Thrombosis 10 years ago in his right eye, and repeated it, in the same eye, 3 years ago. She also complained of bi-temporal migraines, rhinitis with coryza (diagnosed as allergic), eyes redness, eyes itching and aching, occipital migraines, aches at all her joints, mainly wrists, elbows, shoulders and hips, diagnosed as Fibromyalgia. For more than 20 years, she was a smoker of 40 cigarettes and drinker of coffee 1,000 milliliter (2 pints), caffeinated soft drinks 300 milliliter (10 fluid ounces), beer 1,200 milliliter (near 3 pints), and a “delicious water” 3,300 milliliter (nearly one gallon) each day. On ophthalmological examination we found Optic Nerve’s disks with 0/0/0/0.5 and 0.4/2/0/0.25 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), and with white sheaths around the right Optic Nerve’s disk vessels. This characterizes the Cerebrospinal Fluid Hypertension Syndrome, which caused the two Central Retinal Vein branch thrombosis and all the other symptoms. Her eyes’ anterior chambers were deep, physiologic. Her eyes’ intraocular pressures measured 25 and 25 mmHg, which shows the Ocular Hypertension, but yet without glaucoma. She also presented Pterygium on both eyes, and needed eyeglasses.

Here we see the flourishing Fluids Hypertension Syndromes caused by the sum of caffeine, cigarettes, excessive water and beer. Her eyes’ lesions were not worse because she had simultaneously the two fluids hypertension: the Cerebrospinal fluid hypertension and the intraocular hypertension. This allowed the sparing of the bigger lesions in the Optic Nerves' disks.

She is lucky: now she can cure most of her symptoms caused by so much vices, besides preventing a future blindness and all the other possible heavy consequences to her health, provided she stops all of her vices now.

Terson syndrome: When the Cerebrospinal fluid pressure rise is extreme and sudden, as caused by a subarachnoid hemorrhage from some ruptured intracranial aneurysm, it causes an acute and sustained compression of the Central Retinal Vein as it passes through the Optic Nerve. The sustained and strong rise of the venous blood pressure in the eye can cause a Central Retinal Vein branch or capillary intraocular hemorrhage, usually bilateral, known as Terson syndrome. It also can be caused by strangulation, trauma, tumor, and post-surgical intracranial bleeding. Its pathophysiology is similar to the Acute Mountain Sickness.


The chronic Cerebrospinal Fluid Hypertension above the intraocular pressure, squeezing the Lamina Cribosa from the Optic Nerve towards the eye causes its edema and aches. At the beginning, there is a mild edema (0.25 dioptre) at a small portion of the Optic Nerve’s Disk border, because the Arachnoids space filled with the Cerebrospinal Fluid is annular, around the Optic Nerve, just at the outer side of the Optic Nerve’s Lamina Cribosa.

When repeated hundreds of times, it also cause peri-vascular edema around the arteries and veins on the Optic disk, visible on direct ophthalmoscopy as white sheaths (Scheme III-4) - repeated here.

These mild edemas and white sheaths are visible with careful direct ophthalmoscopy with red-free light.
Scheme III-4 (repeated): Direct ophthalmoscopic view of the Optic Nerve’s disk 0.2/1/0/0.5 (0.2=Cup-Disk diameter/ 1 = Cup depth/ 0 = no Lamina Criosa’s pores visibility/ 0.5 = borders edemas) and white sheaths around the arteries and veins on the Optic Disk: evident Cerebrospinal Fluid Hypertension Syndrome.

Whether this rise of the Cerebrospinal Fluid pressure is too intense or remains too long, it causes visible exuberant or giant edema, which can cause the Optic Nerve’s fibers damage with visual field partial loss, configuring the Papilledema of the Benign Intracranial Hypertension (Pseudotumor cerebri) with reduced Migraines (Scheme XIII-1). The exuberant chronic papilledema can cause many retinal and sub-retinal damages, as:

- Disc hyperemia,
- Retinal hemorrhages,
- Macular Star.
- Retinal exudation and cotton-wool spots,
- Macular edema.
- Concentric circumferential lines (Patton lines).
- Radial choroid and retinal folds.
- Retinal pigment epithelial changes.
- Peri-papillary sub-retinal neovessel membranes (Nguyen C and Borruat FX).
- Sub-retinal hemorrhage.
- Blurring of vision,
- Decreased color perception,
- Constriction of the visual field,
- Loss of central visual acuity,
- Blindness.

“The most common presenting symptom of Pseudotumor cerebri is headache, either intermittently or permanent, usually worsen at the morning and with recumbent position.” (Mathews M K, Sergott R C, Savino P J).
In all patients, we look for minimal edemas of the disk margin of Optic Nerve, whose aspect is very similar to the normal hyperopic patients without Migraine. They are visible:
- with a direct ophthalmoscope with red-free light,
- in an entirely dark ambient,
- by a physician experienced with direct ophthalmoscopic examination, and
- careful search for the minimal Optic Nerve's borders edemas.

From our patients, 782 presented some rise or edema (0.25 dioptre or bigger) at one or both Optic Nerve’s disk margins.

Out of these 782 patients,
- 638 (81.6%) felt Migraines or other signs or symptoms, and
- 144 (18.4%) felt nothing.

Whether we consider only the evident edemas of 0.5 dioptre or bigger, 243 patients presented them; out of these 243 patients:
- 210 (86.4%) felt Migraines or other signs or symptoms, and only
- 33 (13.6%) felt nothing (Table XIII-2).

<p>| Optic Nerve’s Disk borders edema from patients with and without Migraines |
| Edema of one or both Optic Nerves’ disks | Quantity of Patients |</p>
<table>
<thead>
<tr>
<th>High of Edema</th>
<th>With Migraines</th>
<th>Without Migraines</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.25 dioptre or bigger</td>
<td>638 (81.6%)</td>
<td>144 (18.4%)</td>
<td>782 (100%)</td>
</tr>
<tr>
<td>0.5 dioptre or bigger</td>
<td>210 (86.4%)</td>
<td>33 (13.6%)</td>
<td>243 (100%)</td>
</tr>
</tbody>
</table>

Table XIII-2: Distribution of Optic Nerve’s Disk borders edema from our patients with and without Migraines.

With the direct ophthalmoscope, we see the smaller edema degree, 0.25 dioptre, as a small rise of the Optic Nerve’s disk border or only by a gray color at part (usually inferior) of the Optic Nerve’s Disk fibers, masking its physiologic sharpness border. We consider this minimal edema also as physiologic, or as “congenitally anomalous disc mimicking papilledema” (Mathews M K, Sergott R C, Savino P J) only when there is no sign or symptom linked to it.

When there is blurring of the superior and inferior disk’s borders, we classify it as 0.5 dioptre. When there is evident blurring and rise almost complete of the disk’s borders, we classify it as 0.75 dioptre. When the disk’s borders rise needs to turn 1 dioptre of the ophthalmoscope to focus it, this 1 dioptre is our classification of this edema.

When there is a rise of the intraocular pressure (ocular hypertension) simultaneously with the rise of the cerebrospinal fluid pressure, there is no Optic Nerve’s borders edema. So, when the patient has “Idiopathic intracranial hypertension” or Cerebrospinal Fluid Hypertension, he can present edemas in both Optic Nerves’ disks, or only in one, or in no one, depending from the intraocular pressure at the other side of the Optic Nerve’s Lamina cribosa:

“Three patients with benign intracranial hypertension (or Pseudotumor cerebri) had verified increased Cerebrospinal Fluid pressure and unilateral papilledema… The diagnosis of benign intracranial hypertension must be considered even in the absence of bilateral papilledema.” (Sher N A, and others).

We conclude that all the Optic disk border’s edemas symptomatic or with 0.5 dioptre or higher are pathological, are signs of Cerebrospinal fluid pressure rises, with or without migraines.

Peri-vascular white sheaths around Optic Nerve’s disk vessels and Migraines: Together with the small edemas of Optic Nerve’s disk margin, we found in some patients small visible edemas as peri-vascular white sheaths around the arteries and veins exclusively at the Optic Nerve’s Disk.
This aspect is typical of the Benign Intracranial Hypertension, so with Migraines (9.7% of visible peri-vascular white sheaths from 931 patients), so without Migraines (5.3% of visible peri-vascular white sheaths from 339 patients) (Table XIII-3).

### Peri-vascular white sheaths on Optic Nerve’s disk vessels in Cerebrospinal Fluid Hypertension Syndrome (Benign Intracranial Hypertension)

<table>
<thead>
<tr>
<th></th>
<th>Total Patients</th>
<th>Optic Nerves borders edema 0.5 dioptre or more</th>
<th>Peri-vascular white sheaths on Optic Nerve's disk vessels</th>
</tr>
</thead>
<tbody>
<tr>
<td>With any Migraines</td>
<td>931</td>
<td>211 (22.7%)</td>
<td>90 (9.7%)</td>
</tr>
<tr>
<td>No Migraines</td>
<td>339</td>
<td>33 (9.7%)</td>
<td>18 (5.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,270</td>
<td>244 (19.1%)</td>
<td>108 (8.5%)</td>
</tr>
</tbody>
</table>

**Table XIII-3:** White sheaths around disk vessels in Benign Intracranial Hypertension from our 1,270 patients.

**Drusen in the Optic Nerve’s Disk (druses):** These drusen are consequent to many years of repeated Optic Nerve’s disk edema from the Cerebrospinal Fluid Hypertension, and they can cause lesion of the Optic nerve's fibers and visual field deficits. They are also denominated as “pseudo-drusen” from the Pseudotumor Cerebri, and as “pseudopapilledema”. As they occur and grow with the chronic edema of the Optic Nerve's papilla, which also cause other retinal degeneration, the doctors incriminate them:

“Disc drusen may increase the risk of later developing subretinal neovascular membranes or retinal vascular occlusion.” (Giovannini J, and Chrousos G).

The Optic Nerve's disk drusen are very rare between our patients, because we lower their Cerebrospinal fluid pressure in the first day with the treatment, and from this day on, they do not produce Optic Nerve’s drusen or any other pathology related to them. We could not make statistics about them.

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**XIII -d - 5) Cerebrospinal Fluid Hypertension squeezing the 2nd cranial nerve - 5 – Optic Nerve’s Disk Edema spreading in the retinal layers, under the retina and through the choroids, to the macula and peri-macular regions. Choroidal folds.**

The mild chronic Optic Nerve’s borders edema (Papilledema) caused by the chronic rise of the Cerebrospinal fluid pressure can spread:

- Into the retina causing retinoschisis,
- Under the retinal-pigment epithelium causing its detachment.
- Into and under the choroids, causing choroidal folds.

This mild chronic Optic Nerve’s borders edema can spread towards the posterior retinal pole, causing:

- Geographic Atrophy,
- Acute Posterior Multifocal Placoid Pigment Epitheliopathy,
- Serpiginous Choroiditis, and others.

This edema can spread also towards the Macula Lutea causing:

- Macular edema,
- Cystoid Macular Edema,
- Macular detachment and
- Macular Hole. (Scheme XIII-2).
Studying “patients with glaucoma without optic nerve pits,” the authors concluded: “Peripapillary retinoschisis, (one of them extending into the macula), may represent a unique sequela of intraocular fluctuations in patients with uncontrolled glaucoma.” (Kahook M Y, and others).

Studying patients with macular neurosensory detachments related with Optic Nerve’s pits, the authors found “Retinal edema and cystic degeneration, with macular neurosensory detachments, most prominent in the retina at the level of the outer plexiform layer. A lesser degree of edema was present in the inner retina, predominantly located between the disc and fovea. The schisis-like cavity or swollen retina communicated with the optic disc in all eyes, whereas none of the eyes demonstrated a direct connection between the macular detachment and the optic pit. Fluid may enter from the optic pit into the retinal stroma and not directly into the subretinal space.” (Rutledge B K, ad others).

“Subretinal fluid accumulations can cause decreased visual acuity in patients with papilledema. Optical coherence tomography can demonstrate subretinal fluid and can be used to follow the course of this important visual complication of papilledema. The subretinal fluid appeared to arise from the peripapillary region.” (Hove V J 3rd, and others).

“A 42-year-old man with idiopathic intracranial hypertension and chronic papilledema had severe visual loss in his left eye caused by subretinal bleeding from a peripapillary choroidal neovascular membrane” (Sathornsumetee B, and others).
“Twelve patients with choroidal folds included nine men and three women. Six patients (50%) presented with papilledema in the eye with choroidal folds. The other six patients (50%) presented with only choroidal folds. In this study, 10 (83%) of 12 patients had an opening pressure greater than 230 mm H(2)O. In patients presenting with only choroidal folds, five (83%) of six patients had an opening pressure greater than 230 mm H(2)O, with an average opening pressure of 290 mm H(2)O. Conclusion: Depending on the timing of the evaluation, papilledema may or may not be present, and only choroidal folds may be seen as a reflection of increased intracranial pressure.” (Griebel S R, and Kosmorsky G S).

**Congenital pit of the Optic disc:** Many doctors report about Macular detachment consequent to Congenital pit of the Optic disc. Meanwhile, most their photographs show Optic Nerve's borders edema, which is consequent to the Cerebrospinal Fluid's hypertension. As the doctors do not ask to their patients about their daily drinks, and few doctors ask about their hormones and medicaments, and only medicate these patients surgically or with photo-coagulation, this Optic disk pit probably is acquired and not congenital.

Some doctors found a genetic etiology, a “X-linked juvenile retinoschisis”. Did those patients drink caffeine, excessive water, wine, or beer? Besides the genetic, have not the patient's drinks a participation in his retinoschisis? Can the patient be cured by excluding his drinks from his diet? Did the doctors teach this to their patients?

**Relapsing maxillary sinusitis and macular degeneration caused by the Cerebrospinal Fluid Hypertension:**

In the year 1,989, we had a mulatta with 39 year-old, with one grandparent Black and the others Portuguese. She was housewife, and had 5 children. She complained about eyes aches, and we found only the need of hyperopic eyeglasses. At that time we did not know enough, and on the direct ophthalmoscopy we only found moderate arteriosclerosis. Her intraocular pressures were physiologic, 14 mmHg in each eye. She came again many times, years apart, complaining about headaches that worsened at the stress, and each time we only prescribed her new eyeglasses.

Now at the year 2,007, she came again with 57 year-old, 1.52 meters (5 feet), and 65 kilograms (143 pounds) of weight. This time, we asked her the right questions. She complained about years of many relapsing sicknesses: Maxillary bilateral “sinusitis” twice a year, worsening vision, memory failing for 5 minutes each time, dizziness, smell loss, deafness and head-top migraines. She was concerned about the left eye that was aching again, tearful and itching since one week ago. Her intraocular pressures were 12 mmHg in both eyes (physiologic). The anterior chambers were shallow. She again needed new eyeglasses for distance and for near vision. On direct ophthalmoscopy we found “crowded disks”, with 0/0/0.25 and 0/0/0.5 right and left eyes (cup diameter/ cup depth/ lamina cribosa pores visibility/ borders edema), which we years ago considered as “normal”, and now we know that it is a signal of the Cerebrospinal Fluid Hypertension Syndrome. With careful search, we saw many drusen at her both retinas, which is the beginning of the age-related macular degeneration.

She has arterial hypertension. She drinks regular coffee 50 milliliters (a little less than 2 fluid ounces), decaffeinated coffee 100 milliliters (a little more than 3 fluid ounces), caffeinated soft drink Guaranã 300 milliliters (10 fluid ounces), and water 3,000 milliliters (nearly one gallon) daily, prescribed by a physician “because of her advanced age”.

From now on, whether she stops the caffeine and the excessive water drank, she will stabilize all these sicknesses for life. Alternatively, whether she keeps the drinks, she can evolve to the damage consequent to the Cerebrospinal Fluid Hypertension: blindness, deafness, labyrinthitis, anosmia, and other sicknesses that worsen with caffeine and excessive water drank.

XIII - d – 6) Cerebrospinal Fluid Hypertension squeezing the 2nd cranial nerve - 6 – Chronic Squeezing of the Central Retinal Vein in the Optic Nerve, causing chronic increased pressure in the Central Retinal Vein in the eye.
On physiologic conditions, the blood in the central retinal vein pressure is a little higher (0.3 to 1.3 mmHg) than the cerebrospinal fluid pressure. This was measured in dogs’ eyes: “Dogs were anesthetized … the retinal arterial pressure = 0.72*aortic pressure + 4.3. The correlation coefficient between retinal vein pressure and intraocular pressure was greater than 0.96. The transmural pressure varied along the retinal vein (to the cerebrospinal fluid pressure) from 1.3 +/- 0.3 mmHg at 1 disk diameter from the optic disk rim to 0.3 +/- 0.2 mmHg at the optic disk.” (Morgan W H, and others).

When there is a brain hypoxia, there is a vascular reactive dilatation in the brain, which causes a cerebrospinal fluid hypertension that squeezes the optic nerve and increases the pressure in the central retinal vein and causes its dilatation, which already was measured: “Persons (aged 55 years or older) with arteriolar oxygen saturation less than 96% had on average 5 mum larger venular diameters (measured in 1 eye) compared with those with arteriolar oxygen saturation of 96% or more.” (de Jong F J, and others).

The chronic squeeze of the central retinal vein by the cerebrospinal fluid hypertension makes difficult the blood venous return, visibly engorges the central retinal vein, increases the blood pressure in this vein and causes:

- peri-vascular edemas at the optic disk,
- retinal hard and soft exudates,
- retinal hemorrhages,
- central retinal vein thrombosis,
- swollen and cystic macular degeneration,
- macular hole,
- glaucoma,
- “age-related” macular degeneration (AMD), and
- Serous macular detachment.

Instead of the false name of “Age-related Macular Degeneration”, the correct name should be “Caffeine, Wine and Beer Macular Degeneration”.

Central retinal vein thrombosis (occlusion). It has 2 main pathophysiology, and both are from the fluids' hypertension syndromes:

- The rise of the cerebrospinal fluid pressure squeezes the central retinal vein in the optic nerve behind the eye, and at the optic nerve’s disk, causing retention of the blood drainage in the eye and engorging the central retinal vein. This central retinal venous engorgement is visible with direct ophthalmoscopy, and stimulates its thrombosis.
- The glaucoma squeezes the central retinal vein's branches at the arterial-venous crossings and at the border of the optic nerve's cup; this causes the blood retention and the central retinal vein thrombosis.

On “Four hundred fifty consecutive cases of retinal venous occlusion... (from) 207 (46%) that occurred within the optic nerve... the optic nerve head swelling group had 80 cases (17.8%) and the nonoptic nerve head swelling group had 127 cases (28.2%). The mean cup-to-disc ratio was significantly higher (0.65) in the optic cup - retinal venous occlusion compared with the rest of the groups (0.45-0.48). The proportion of cases with cup-to-disc > or = 0.7 was significantly higher in the optic cup - retinal venous occlusion group (39.1%) compared with the rest of the groups (0-6.3%).” (Beaumont P E, and Kang H K).

The chronic cerebrospinal fluid hypertension causes the chronic squeezing of the central retinal vein in the optic nerve (Scheme XIII-1). This causes the rise of the venous blood pressure and the engorgement of the central retinal vein branches in the eye, with chronic difficulty of the venous blood return from the retina, impairing the resorption of the physiologic retinal interstitial fluid. This cause many blinding sicknesses:
• The chronic accumulation of the retinal interstitial fluid causes chronic **Macular edema.**

• The chronic minimal edema of the macula lutea and retina, relapsing many times, results in Drusen in the retina and on the “Age-Related Macular Degeneration” (AMD). Its correct name should be “Caffeine, wine and beer macular degeneration”. The soft drusen can appear, grow, stay stable, and eventually be resorbed. They are dynamic.

• The chronic macular edema can result in **Cystic Macular Degeneration.**

• The Cystic Macular Degeneration, engorging and enduring too much, results in the rupture (de-roofing) of its inner lawyers of the Retina and consequent **Macular Hole**, which drains the accumulated retinal interstitial fluid to the vitreous space, causing vitreous-retinal adhesion and epi-retinal membranes.

**Macular Drusen consequent to beer, wine, coffee and soft drinks:** *We had a strong Mulatto (Black, Indian and White ancestors), 42-year-old, and 1.71 meters (5 feet and 7 inches) tall, weighting 96 kilograms (212 pounds). He was complaining of chronic daily aches in his eyes, bi-temporal headaches and visual acuity reduction of his right eye. He has never used eyeglasses or medicaments. He used to drink daily beer 1,000 milliliter (more than 2 pints), coffee 50 milliliter (nearly 2 fluid ounces) and caffeinated soft drinks 600 milliliter (20 fluid ounces). Some days, he drank wine.*

*On ophthalmological examination we found almost all normal, no need of eyeglasses (what is rare at this age) except that his right visual acuity was only 20/60 (0.33) and it did not become better with eyeglasses. On direct ophthalmoscopy we found Optic Nerve’s disks with 0/0/0.5 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ border’s edema), which is characteristic of the Cerebrospinal Fluid Hypertension Syndrome, which explains his aches. Searching carefully his retinas with both pupils dilated, we found Macular Drusen in both eyes; the right eye with the drusen centered in the macula, and the left eye with the drusen out of center, which kept normal his central vision in this eye.*

*This damage is definitive. Provided he stops his daily drinks, the drusen will reduce a little or stay the same, and his visual acuity will also stay the same. Whether he keeps his daily drinks, the Cerebrospinal Fluid Hypertension Syndrome will cause more drusen and his central vision will soon be lost. Therefore, the medicine denominates this as “Age-related Macular Degeneration”, which evidently has nothing with age, because he is only 42, very strong and healthy. The correct name shall be “Caffeine, Wine and Beer Macular Degeneration”.

**Diabetic retinopathy stimulus:** The diabetes weakens the capillaries in the entire body, favoring their leakage. The Cerebrospinal fluid hypertension increases the blood pressure in the Central Retinal Vein. These both etiologies together increase the hemorrhages and exudates in the retina, worsening the diabetic retinopathy.

**Cystoid macular edema and Exudative Macular degeneration:** They have many etiologies and pathophysologies. Here are some of them:

A - **Cystoid macular edema:** The Cerebrospinal Fluid Hypertension, squeezing the Central Retinal Vein in the Optic Nerve behind the eye, increases the blood pressure in it, increases the hydrostatic pressure in the blood capillaries, and this impairs the resorption of the inter-cellular (interstitial) retinal fluids. These chronically retained fluids cause the Cystoid macular edema.

B - **Macular edema and macular cysts:** The Cerebrospinal fluid's hypertension causes the Optic Nerve’s disk borders edema, which spreading through the retina until the macula causes macular edema and macular cysts.

C - **Macular edema:** The toxic effect of caffeine, adrenaline (Epinephrine), diabetes, and others, weakens the choroidal and retinal capillaries, causing the exudation of the blood components (rupture of the blood-retinal barrier), and causing the macular edema.

D - **Macular edema in the Retinitis Pigmentosa:** Using optical coherence tomography, “Of the 124 retinitis pigmentosa patients, 47 showed cystoid macular oedema in at least one eye (38%), while 34 showed cystoid macular oedema in both eyes (27%).” (Hajali M, and others).

The retinitis pigmentosa is genetically determined, but has it nothing with caffeine, wine or beer, which are the main causes of the cystoid macular edema? The genetic of Retinitis Pigmentosa does not
cause an excessive retinal sensibility to the caffeine and endogenous adrenaline effects?

To our patients with retinitis pigmentosa we teach to avoid the caffeine, but we have no control about any results.

**E - Bullous serofibrinous exudative retinal detachment:** The absolute excess of hydration and corticosteroids to a hospitalized patient, can cause it: "Systemic corticosteroid treatment may cause severe exacerbation of retinal detachment and lasting visual loss in some patients with idiopathic central serous retinopathy." (Gass J D, and Little H). “Idiopathic” means that he does not know this etiology, here described.

**F - Bullous retinal detachment:** It can be caused by the excessive water retention in the patients with renal failure: "Two patients receiving hemodialysis for chronic renal failure developed bilateral bullous retinal detachment associated with multiple underlying serous detachments of the pigment epithelium. Many of the detachments of the pigment epithelium were surrounded by subretinal whitish exudate that was probably fibrinous in type." (Gass J D).

**XIII - d - 8) Cerebrospinal Fluid Hypertension squeezing the 2nd cranial nerve - 8 - Chronic Squeezing the Central Retinal Vein in the Optic Nerve, causing intraocular pressure chronic rise and glaucoma.**

We observed that the Migraines were related with a small chronic rise of the intraocular pressure, from 17 until 21 mmHg, and this was the origin of our **Graph V-1: Intensities of Migraines, Headaches and Migraine variants linked with their Intraocular Pressures**, published at the year 2002:

![Graph V-1](image)

**Graph V-1 (schematic) (repeated): Intensities of Migraines, Headaches and Migraine variants (vertical from 0 to 4) linked with their Intraocular Pressures (horizontal from 14 to 26 mmHg). Modified. (Izecksohn L and Izecksohn C).**

The migraines that originated this **Graph V-1** were from three origins:

**a)** The solitary rise of the intraocular pressure (Ocular Hypertension Syndrome). After years of these migraines from the rise of the intraocular pressure alone, they can become a glaucoma.
b) The solitary rise of the Cerebrospinal fluid pressure. This causes many migraines and variants because it stretches all the cranial nerves, it causes the Optic Nerve's borders edema, but no glaucoma. After many decades of migraines, reducing its etiologies, it can cure without any remaining lesion.

c) The Cerebrospinal fluid pressure raises and the intraocular pressure also raises, because two pathophyslogies:

1st - Their etiologies are acting in both places simultaneously.

2nd - The rise of the Cerebrospinal fluid pressure stretches the Central Retinal vein in the Optic Nerve, and this causes a secondary rise of the intraocular pressure.

When these both pressures ever raise together, they cause migraines and variants, but the Optic Nerve's disk is normal.

When there is some timing difference between both pressures raises, in the same day but at different hours, the same Optic Nerve’s disk can show simultaneously both damage:

- The increased glaucomatous cup in the Optic Nerve's disk caused by the rise of the intraocular pressure, and
- The Optic Nerve's borders edema, caused by the rise of the Cerebrospinal fluid pressure behind it.

As the Optic Nerves' borders edemas came and go without any definitive damage, but the glaucomatous cup is definitive and is always progressive, after more than 20 years of headaches and migraines the final disease can be the chronic open-angle glaucoma.

The relation of the chronic rise of the cerebrospinal fluid pressure and simultaneous rise of the intraocular pressure already was demonstrated: “The Optic nerve sheath diameter was significantly increased in normal-tension glaucoma patients (right side: mean 7.9±0.9 mm SD; left: 8.0±1.1 mm) compared with controls (right: 6.3±0.5 mm; left: 6.1±0.6 mm). An increased optic nerve sheath diameter is generally associated with increased intracranial pressure”. (Jaggi G P, and others).

rise of the intraocular and Cerebrospinal Fluids’ pressures and many years of migraines. On the year 2003, we had a patient with 42 year-old woman, White, law-technician, 2 children. She was 1.53 meters tall (5 feet), and 54 kilograms (119 pounds). She had one grandfather Mestizo and the other grandfathers from European origin. She was suffering from matutinal migraines at both head sides, and chronic allergic rhinitis. She also had chronic "red eyes" and used artificial tears daily. She was medicated with homeopathic Atropa beladona CH 1,000. She had photophobia and used dark eyeglasses to protect her eyes. She knew that she had rise of the intraocular pressures but was not medicating them. Her father suffers with glaucoma. She also knew that all her symptoms worsened each time she drank beer, but she sustain these drinks.

On the examination, we found intraocular pressures of 20 mmHg in each eye which are a little high, with deep (physiologic) anterior chambers, and her new myopic eyeglasses were both eyes with -1.50 dioptre.

On direct ophthalmoscopy her Optic Nerves’ discs show 0.5/1/0.5 (disc cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is typical from the Cerebrospinal fluid Hypertension Syndrome. The simultaneous both intraocular and Cerebrospinal Fluids Hypertension Syndromes explained all her signs and symptoms. We prescribed her new eyeglasses, medicated her intraocular pressure with Timolol Maleate eye drops twice a day, and told her to stop the beer drinks.

At the following years she came for new exams many times, with small variations of her symptoms. Her intraocular pressures presented between 18 and 23 mmHg each time she came. Sometimes she presented with eye-sores, eye itching, eyelids edemas, eyes hyperemia, and occipital headaches.

On the year 2,005, after asking carefully, we discover that she was drinking 4 liters (more than a gallon) of water daily, and we told her to shorten this.
On the year 2,008, she presented with “Cervical brachial aches” with aches at her thorax, back, arms, forearms and hands, worsening with the beer and coffee drinks that she never stopped. Her occipital headaches were daily, for the last three months. Her Optic Nerves’ discs show 0.2/1/0.3 and many sheaths around the arteries and veins in the disks, showing the effect of the beer and Cerebrospinal Fluid Hypertension, with intraocular pressures of 23 mmHg in both eyes. This is one example of a patient that suffered too much and will suffer many more years, because she has not the will power to stop her drinks, although she knows that they were causing all her sufferings. Which sickness will be her next?

The Grave’s sickness demonstrates that the intra-orbital venous squeeze causes glaucoma:

The Graves’ orbitopathy (thyroid-related immune orbitopathy) raises the pressure in the orbit, and consequently chronically squeezes the Optic Nerve and respective sheath of Dura mater. It also squeezes the Central Retinal Vein in the Optic Nerve, and it also squeezes the superior and inferior Ophthalmic Veins in the orbit, but it does not raise the Cerebrospinal fluid pressure. These increased venous blood pressures increase the Aqueous Humor secretion in the eye and difficult its drainage, and cause glaucoma.

Behrouzi, Z and others, studying 182 eyes with Graves’ orbitopathy without steroids use, found that 20 of these eyes (11.0% from 182) presented rise of the intraocular pressure > 21 mmHg or open-angle glaucoma, which is much higher than the 0.8% presented by the other people without the Grave’s orbitopathy. They also found that in 10 of the eyes that developed Compressive Optic Neuropathy, which is a very serious Optic Nerve’s squeezing, the intraocular pressure was high (>21 mmHg) in five out of 10 patients. They concluded, “The prevalence of eyes with Intraocular Pressure ≥21 mmHg was significantly higher in Graves’ orbitopathy than in controls.”

Ohtsuka, K and Nakamura, Y. found similar results. From 104 consecutive Japanese patients with Graves’ disease, 23 (22%) were diagnosed as having ocular hypertension, and 14 (13%) exhibited typical glucomatous visual field defects in the absence of compressive optic neuropathy. They concluded, “The prevalence of normal-tension glaucoma as well as open-angle glaucoma and ocular hypertension was significantly higher among patients with Graves’ disease than in the general population.”

This glaucoma must not be medicated as any other glaucoma: “The increased Intra-Ocular Pressure in Graves' ophthalmopathy is caused … by elevated intraorbital pressure. The difference between Intra-Ocular Pressure and venous outflow pressure must be <5 mmHg to guarantee normal perfusion… Treatment of high Intra-Ocular Pressure (32 mmHg) with dorzolamide drops led to a decrease in visual acuity of two lines, inferior field depression and relative afferent pupillary defect.”(Hartmann K, and Meyer-Schwickerath R).

We conclude that the chronic squeeze of the Optic Nerve and consequent squeeze of the Central Retinal Vein in it, in addition to the squeeze of the ophthalmic veins, cause raise of the intraocular pressure and can result in glaucoma.

XIII- Cerebrospinal Fluid Hypertension on the 2nd cranial nerve - 9 - Retinal and Choroidal Vascular leaks.

The chronic toxic effect of caffeine, beer, wine, and probably excessive adrenaline (Epinephrine) and cortisone (the stress hormones), cause the weakening of the arterial capillaries in the retina and in the choroid under it. The Diabetes also causes similar vascular weakening. All this vascular weakening can result in exudation and hemorrhages in the retina, under the retina and in the choroids.

The consequences of these exudative damage are:


“Idiopathic central serous chorioretinopathy usually causes mild, transient loss of central vision, usually in otherwise healthy men with a type A personality." (Gass J D, and Little H). The type A personality is caused mainly by the caffeine.

The caffeine and the excess of hormones which retain water, as corticosteroids and the hormones of the third trimester of the pregnancy, cause the central serous chorioretinopathy: “Six otherwise healthy
pregnant women had development of idiopathic central serous chorioretinopathy in one or both eyes. All had one or more focal areas of white subretinal exudate, which probably was fibrinous in type. Symptoms developed in most patients in the third trimester and following delivery, there was spontaneous resolution of retinal detachment.” (Gass J D).

**B - Diabetic Retinopathy.**

**C - Retinal and sub-retinal degeneration.**

**D - Multiple Evanescent White Dot Syndrome (MEWDS).**

**E - Choroidal degeneration, neovascularization and fibrosis.**

**F - Age-related Macular Degeneration (AMD).**

**G - Retinal Pigment Epithelium Detachment:** Usually it is caused by the acute water retention in all the body, engorging the choroid space. It also causes the Cerebrospinal Fluid Hypertension, causing edemas at the borders of the Optic Disk, and also causing the increase of the superior and inferior ophthalmic venous pressures, and edema behind the Retinal pigmented Epithelium.

Although the etiologies are the same and can happen together, some of these toxic retinal and choroidal vascular leaks do not belong to the Cerebrospinal Fluid Hypertension Syndrome.

The fluids hypertension affect the toxic retinal and choroidal vascular leakage in the eye by two opposite ways:

**A- Reducing the exudation:** The Ocular Hypertension reduces or impedes the exudation and the damage in the eye, because the rise of the intraocular pressure acts on contrary to the exudative pressure.

**B- Increasing the exudation:** The Cerebrospinal Fluid Hypertension increases the exudation and all the damage, because it stretches the Central Retinal vein (explained above), increases the venous blood pressure in it, and this increases the exudative pressure in the retina in the eye.

The arterial hypertension also increases these exudates, hemorrhages and damage, because it increases the arterial perfusion pressure in the arterial capillaries in the eye.

Smoking also increases the occurrence and progression of the “Age-related macular degeneration”: “People in Beaver Dam, Wisconsin, who were aged 43 to 84 years… who were current smokers at baseline, compared with those who never smoked, were at increased risk of incident early age-related macular degeneration and for progression of age-related macular degeneration during a 15-year follow-up.” (Klein R, and others). Is the smoking intoxicating alone, or is it increasing the coffee consumption, and the main toxin to the eye is the caffeine?

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**Central Serous Chorioretinopathy caused by caffeinated soft drinks:** We had a 32-year-old mulatto (Indian, black and white ancestors), 1,61 meter, 62 Kilograms (136 pounds), strong workman, one wife, four children. He began drinking 1.500 milliliter of cachaça (distilled alcohol 50% or more) daily with 17 year-old; some days he did not eat anything, and on one occasion he past 22 continual days without food, with only the cachaça drinks. He stopped drinking cachaça when his liver began to become sick, with 24 year-old. Immediately, he began to drink coffee 500 milliliter, in addition to 3.000 milliliter of cola soft drinks daily, until now, without interruption, for 8 years. During this period, he felt daily plenty sneezes with nasal obstruction and profuse coryza, with the maximum of two days of continuous duration, which forced him on working time, to use a handkerchief over the left shoulder in order to dry his nose only with turning his head without using his hands. Around on ten different occasions, he presented hard dizziness at awakening (labyrinthitis?) that endured the entire day, which made him impossible to walk or getting out of house to work. Two months ago, he presented blurring of the left eye central vision, without any other sign or symptom.

On the examination we found the intraocular pressures 11 and 12 mmHg right and left eyes, which were physiologic. On direct ophthalmoscopy we found signs of moderate spread arteriosclerosis with the arteries compressing on the crossing veins, and a Central Serous Chorioretinopathy in his left eye. All of the above sicknesses, signs and symptoms causing arteriosclerosis, Inner ears hypertension syndrome and Cerebrospinal Fluid Hypertension Syndrome, were consequent to the caffeine and alcohol intoxication, in addition to the excessive water drank daily for years along.

This is a patient who is slowly killing himself by his mouth.
The Cerebrospinal Fluid Hypertension can cause retinal ischemia, exudation and hemorrhages in the retina and under it, by the many ways above described. When many times relapsing the exudation, hemorrhages and their resorption, they become fibrosis and more ischemia, which causes liberation of Vascular Endothelial Grow Factor (VEGF), which causes neovascularization, more exudation and hemorrhages, and finally causes the retinal degeneration and blindness. The retinal pigment epithelium and choroid degeneration have many denominations, as Age-related Macular degeneration, Geographic atrophy, and others.

“These data suggest a relationship between beer consumption and greater odds of having exudative macular degeneration, and increased retinal pigment degeneration”. (Ritter L L, and others). The beer is a strong etiology to all three Fluids' Hypertensions and it is toxic to the retina.

**Macular edema and initial Age-related Macular Degeneration caused by caffeine and beer:** On the year 2001 we had a 22 year-old salesman, short and stout, with 1.68 meters tall (5 feet and 6 inches), weighting 79 kilograms (174 pounds). He had an Hispanic mother, and his father was descendant of Portuguese, Black and Indian: he was a Brazilian White. He was complaining only of a sudden small hemorrhage on the white (sclera) of his right eye. He was a drinker of 2,500 milliliters (a little more than 5 pints) of water and beer daily. He presented no other complaint or event. On ophthalmological examination we found the small hemorrhage, and on direct ophthalmoscopy his both Optic Nerve’s disks show 0.5/3/0/0 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is a discrete damage from the intraocular pressure rise. His intraocular pressures in the office were 14 mmHg in both eyes, physiologic. We recommended him to shorten his water and beer drinks and prescribed Vitamin “A” 50,000 units per mouth each day, for 30 days.

On the year 2004, with 25-year-old, he came complaining of a sudden blurred vision on the center of his right eye, without other complaints. He was drinking daily caffeinated “diet” cola, and beer around 4 days in a week. On direct ophthalmoscopy we found a macular edema in his right eye, and both eyes presented Optic disks show 0.6/3/1/0, which is a suspicion of glaucoma. His intraocular pressures were 16 mmHg in both eyes (physiologic), with a wide (physiologic) anterior chamber. We prescribed him 1 bottle (30 pills) of the vitamin “A”, Timolol maleate 0.5% eye drops to lower his intraocular pressures only before sleeping, and again to shorten his caffeinated and beer drinks.

Now, on the year 2008 he came again, this time complaining from a sudden haze on the center of his left eye. He is 29 year-old, 75 kilograms (165 pounds), he does regular exercises at a fitness academy, he drinks beer 3 days each week, daily caffeinated coffee 400 milliliters (13 fluid ounces) and around 2,000 milliliters of water and milk. He is still using daily the same eye drops of four years ago, at night. The exam of Amsler screen shows central vision distortion, little in his right and worse in his left eye, which means macular edema. The intraocular pressures were 14 mmHg (physiologic) in both eyes. The direct ophthalmoscopy shows the same Optic disks, but the macula of both eyes lost their physiologic brightness at their fovea.

This is the beginning of the medically denominated “Age-related macular degeneration”. But why “Age”? This man begun this damage with 25-year-old, and perhaps with only 22-year-old. His vision is not worse now, because each time he came for consultation he shortened his caffeinated and beer drinks during some years. As he relapses the caffeine and beer drinking, the damage is slowly progressing. It is evident that this damage is a direct toxic effect of caffeine and beer on the macular region of the retina, maybe in addition to some genetic propensity. Its correct name should be “Caffeine, wine and beer macular degeneration”.

We also noted an increased sensibility of the stout men to suffer any damage caused by the caffeine. The damage is variegated, but **the strong men are more prone to intoxicate with caffeine. We do not know why.**
**Age-related Macular Degeneration together with the Fluids Hypertension Syndromes:** We had a 70 year-old patient, retired as a truck-driver. He had one grandmother Indian, one grandfather Portuguese, and the other two grandparents Brazilian White. He was 1.62 meters (5 feet and 4 inches) tall, weighting 70 kilograms (154 pounds). Since his twenties, he was a daily drinker of coffee 400 milliliters (13 fluid ounces), some bottles of beer on weekends with hangover at the next morning, and occasionally some wine. He is almost deaf. He is complaining about both eyes almost blind, intense eyes itching, eyelids edemas and excessive tears. He presented years of chronic backaches. On ophthalmological exam, we found physiologic intraocular pressures of 14 mm Hg in both eyes, eyelids edemas, physiologic deep anterior chambers, and with the best eyeglasses he presented visual acuity of 20/80 (25%) in the right eye, and only hands movements at 1 meter in the left eye: he is legally blind.

On direct ophthalmoscopy he presented Optic discs with 0.5/3/1/0 and 0.7/3/1/0 right and left eyes (cup diameter/ cup depth/ lamina cribosa's pores visibility/ borders edema), which means a small glaucomatous damage, acceptable at his age. His retinas presented many drusen, fibrosis and a neovascular membrane under them, characterizing the Caffeine, Wine and Beer Macular Degeneration, actually denominated as “Age-related Macular Degeneration”. Two years ago, other doctor proposed him a Laser treatment to this, but he refused because he could not afford US$10,000.00 to pay for it. We prescribed him only to stop all caffeine, beer and wine drinks, without any medicament.

After one month he came back, entirely better. He had lost 2 kilograms (4 pounds) of water, without other diet. He was feeling better, without backaches, edemas or eye itching, seeing a little better, hearing better. The definitive degeneration in his eyes were the same. With his eyeglasses, his only visual acuity was 20/60 in the right eye, and he was very happy with this.

These are simultaneous Ocular Hypertension syndrome, which caused him the small glaucomatous damage and eyes’ itching, edemas and tearfulness; Inner ears fluids hypertension syndrome, which caused his deafness and hangovers; Cerebrospinal Fluid Hypertension syndrome, which caused him backaches and exudative retinal, under-retinal and choroidal vascular leaks and made him nearly blind.

All these sicknesses were caused by more than 40 years of daily drinks of caffeine, beer and wine. But the actual medical doctors denominate all of these sicknesses as “idiopathic”, because they do not know these etiologies.

**XIII- d - Cerebrospinal Fluid Hypertension on the 2nd cranial nerve - 10 - Macular edema, macular cyst, macular detachment, macular hole, vitreous-retinal adhesion, epi-retinal membrane.**

The macular edema without inflammation is the accumulation of fluids (mainly serum and plasma) in the retina, which was excessively produced and not drained or absorbed by the venous capillaries. The retina has no lymphatics to absorb the interstitial fluids. These fluids can be from 4 origins:

a-The Optic nerve's papillary edema from the Cerebrospinal fluid hypertension, spreading from the Optic Nerve’s papilla through the retina.
b-The choroid's arterial capillaries leaking too much, spreading through breaks in the retinal pigment epithelium into the retina.
c-The retinal arterial capillaries leaking too much.
d-The anomalous vessels from neovascularization in the retina and choroid leaking too much.

All these leaking fluids can be restrained by a high intraocular pressure. Whether there is a low intraocular pressure, spontaneously or caused by anti-glaucomatous eye drops, the leaking is increased.

At the beginning, the excess of fluids swells the retina, producing the macular edema and pigment epithelial detachment. When the edema increases, it breaks the retinal layers, producing the macular cyst and macular detachment. When the excessive fluids increase more, the inner retinal layer breaks, draining the excessive fluids to the space between the retina and the vitreous, configuring the macular hole.

The macular hole consequent to the primary traction of the retinal inner layers by the vitreous adhesion is rare. The most frequent is the plasma escaping from the chronic macular edema and macular hole into the vitreous causing the secondary vitreous-retinal adhesion.

Where these excessive fluids escaping from the macular hole are drained? The only possible drainage is the Schlemm canal, at the Anterior chamber. To get there, the fluids must pass through and around
the vitreous, generating cells proliferation, fibrosis, “idiopathic” epi-retinal membrane, vitreous strands and vitreous-retinal adhesion. These fluids must pass through the suspension of the crystalline lens, which forms a continuous with the its posterior capsule. As after the cataract extraction and the posterior capsule opening this obstacle is removed, it is easier for the macular edema and macular hole to occur and drain.

And all of these lesions are caused mainly by drinking caffeine, wine and beer. They are delicious, aren't they? Go on: drink a little more of them! Now! You deserve them.

Do you have a macular hole in your eye? Do not worry: the ophthalmological surgeon will tell you that your macular hole is “idiopathic”, which means that he doesn't know its etiology. He will also say that the vitreous-retinal adhesion and traction, “without any origin”, caused it and is blinding you. He will try to stop it with vitreous surgery or intraocular injections, without any guaranty. He will operate you only after you sign a paper where you assure that you will not sue him, even if the therapy blinds you. You are becoming blind and it can worsen, but you can keep drinking all coffees, colas, wines and beers you desire. This is fair, isn't it? Lets gonna drink to it!

Lifelong daily caffeine, migraines, other sicknesses, retinal degeneration and blindness: We had a 67-year-old white house-wife, with all grandparents from Portugal and other European countries. She is mother of five children. She drank coffee during her entire life, as her mother also did. Now, she is drinking 200 milliliters (7 fluid ounces) of coffee and 300 milliliters (10 fluid ounces) of caffeinated soft drinks daily. Therefore, she is caffeinated for life, since before her birth. Now she is 1.45 meters tall (4 feet and 9 inches), and weighing 53 kilograms (117 pounds). She presents, besides the stuntedness, arterial hypertension, diabetes type 2 since two years ago, wide frontal headaches which worsen with stress, both eyes sores and itching. On the examination, we found intraocular pressures of 22 mmHg in both eyes (a little high), and shallow anterior chambers. The direct ophthalmoscopy shows both optic nerves’ disks with moderate cupping of 0.5/2/0/? (Cup diameter/ cup depth/ lamina cribosa’s pore visibility/ borders edema). The question mark signifies that she presented over both right and left Optic nerves’ borders and retinas, many spread drusen and hard exudates, some hemorrhages, under retinal and choroidal scars from resorbed past edemas and hemorrhages. She presented no more Macula Lutea in both eyes (both atrophied). All those definitive damage lead her to blindness on her right eye and almost that on her left eye (right eye with visual acuity of counting fingers at half meter, and left eye with 20/100). There are many names to this retinal degeneration: the names do not change her blindness.

A question to you: Which one of these sicknesses is not related or consequent to the caffeine?

Another question to you: How do you cure this blindness caused by the caffeine?

With the exception of Diabetic Retinopathy, this retinal degeneration name should be “Caffeine, Beer and Wine-related Retinopathy”. Most of these above blinding sicknesses of the 2nd cranial nerve can be treated easily withdrawing their etiologies. The visual acuity improvement of the recoverable damage usually occurs in one month, and the patients like it. Their fore treatment by surgery, laser, medications, intraocular injections and other aggressive measures without withdrawing the etiologies is not good medicine, they can cause many secondary sicknesses and it is prone to failure. It seems that these treatments only subsist because they are profitable.

We conclude that there are 10 ways by which the Cerebrospinal Fluid Hypertension Syndrome, the toxicities of caffeine, beer, wine, excessive adrenaline (Epinephrine) and cortisone, diabetes, and other pathologies can cause exudation and hemorrhages in and under the retina, besides glaucoma.

All of this result in retinal ischemia, fibrosis, neovascularization and retinal degeneration, denominated as Age-related Macular Degeneration, Geographic Atrophy, and others. They indeed are Caffeine, Wine and Beer macular and retinal degeneration.
XIII-d – 11) Cerebrospinal Fluid Hypertension on the 2nd cranial nerve - 11) Engorgement of the Optic Nerve sheath:

Ocular or orbital aches (pain) when turning the eyes: The Cerebrospinal Fluid Hypertension engorges the Optic Nerve’s Dura mater, which is its sheath. When the patient turns his eyes from one side to other, this stretched Dura mater bends and aches “behind the eyes”. It is denominated as a “Ocular Migraine” or “Cluster migraine”.

XIII-e - Cerebrospinal Fluid Hypertension without Optic Nerve’s borders edema:

When there are simultaneous raise of the Cerebrospinal Fluid and the intraocular pressures in the same hour, there are no Optic Nerve glaucoma’s cups nor borders' edemas.

- Curing 40 years of Migraines, edemas and other sicknesses, all caused by inheritance, caffeine and excessive water: We had a 52-year-old needle-woman, with two grand-fathers and one grand-mother from European origin (Germany, Switzerland and Spain) and one grand-mother Brazilian white with typical African black hair.

Since teenage, she suffered from many variegated aches. Now she is 1.68 meters (5 feet and 6 inches) tall, 85 Kilograms (187 pounds) of weigh. She is complaining simultaneously of occasional left side Hemianopsia during one minute and relapsing once a month, middle forehead Migraines, bi-temporal Migraines, Diabetes, Arterial Hypertension, big edemas of all 4 eyelids and in both cheeks at awakening which makes her impossible to open her eyes, diplopia and backaches. She had deep venous leg thrombosis years before the diabetes.

From 2 weeks until now, she presented partial palsy of her right eye, with corresponding diplopia and dizziness. Her neurological examination and cranial tomography show normal.

On ophthalmological examination we found the paresis of the fourth cranial nerve which innervates the right Superior Oblique muscle. She presented both Optic Nerve’s cups with 0.6/3/1/0 (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is suspicion of Glaucoma. She presented Hyperopia and Presbyopia. The intraocular pressures were high, 22 and 22 mmHg, which explains the simultaneous small glaucomatous cups and no borders edemas of the Optic disks, because the rise of the Cerebrospinal fluid pressure was lesser than the rise of the intraocular pressures. She was a drinker of coffee 100 milliliter (3 fluid ounces) and water 2,400 milliliter (more than half-gallon) daily, and occasionally caffeinated over-the-counter analgesics, during all those years.

We prescribed her to stop all caffeine and reduce the excessive water drank daily. After two weeks she came better, but still with small eyelids edemas, strong aches only at her right eye, and the same diplopia. The intraocular pressures were 20 and 20 mmHg in both eyes, which still are a little high. We prescribed her Timolol Maleate 0.5% eye drop, twice a day, to lower her both eyes’ intraocular pressures, which would stop her eye aches and prevent the glaucomatous evolution.

When she came back again after one month, these eye drops had improved her.

Here we see many signs, symptoms and sicknesses, all consequent of the hyper-sensibility to the caffeine in addition to the excessive ingestion of water simultaneously. These drinks caused simultaneous Cerebrospinal Fluid and Ocular Hypertension Syndromes, in addition to the caffeine intoxication, during continuous 40 years of sufferings. All these sufferings could be easily prevented and cured, avoiding these etiologies. Happily, she came in time, before the glaucomatous blinding. It is good, isn't it?

XIII-f - Cerebrospinal Fluid Hypertension squeezing the 3rd, 4th, and 6th cranial nerves: The squeeze of the third, fourth and sixth cranial nerves caused by the Cerebrospinal Fluid Hypertension repeated many times, damages them and cause the ocular palsies presented by some migraine patients, mainly in children, with consequent temporary diplopia and strabismus, denominated as Ophthalmoplegic Migraines.

“Oculomotor ophthalmoplegic migraine is a rare episodic childhood condition in which a unilateral oculomotor palsy is preceded by headache.” (Carlow T J).

“We review 3 new and 37 reported pediatric ophthalmoplegic migraine cases. Patients demonstrated: 1) Headache was an inconsistent feature, with 25% patients showing no evidence of pain at the initial ophthalmoplegic migraine episode.
2) Prolonged time for symptom resolution to occur (median time 3 weeks);
3) Tendency for recurrent episodes to have more severe and persistent nerve involvement;
4) Evidence of permanent neurological sequelae with recurrent episodes (30% of patients);
5) Rapid improvement and shortened duration with corticosteroid therapy and;
6) Transient, reversible magnetic resonance image contrast enhancement of the affected cranial nerve (86% of patients).” (McMillan H J, and others).

This magnetic resonance image visualization of the affected cranial nerve in ophthalmoplegic migraines is an aseptic neuritis of this nerve. It is typically caused, so by the caffeine and so by the Cerebrospinal fluid hypertension causing the nerve ischemia.

- Migraines, ocular paresis, beer, caffeine and excessive water: We had a disk jockey with 33-year-old, mulatto (black, Indian and white ancestors), 1.71 meters (5 feet and 7 inches) of height, 61 kilograms (134 pounds) of weight, almost all healthy, who suddenly presented with diplopia one month ago. He also complained about bi-temporal and occipital headaches, mainly at awakening.

He used to drink coffee 250 milliliter (8 fluid ounces), cola soft drink 600 milliliter (more than a pint) and water 4,800 milliliter (more than a gallon) each day, for the last 10 years, more or less. He also used to drink some pints of beer on weekends, and for the wakening headaches, he self-medicated with caffeinated over-the-counter analgesics.

On the ophthalmological examination, we found almost all normal, as pupils, visual acuity, biomicroscopy and intraocular pressures. He presented a small paresis of a portion of the third cranial nerve on the right side, which included the Superior Rectus and Levator Palpebrae Superioris. His Optic Nerve’s’ disks show 0.6/3/2/0.25 right eye and 0.5/3/1/0.25 left eye (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is a damage suspicious of glaucoma and small cerebrospinal fluid hypertension.

After 1 month, stopping all caffeine, beer, the excessive water drank daily, and medicating only with vitamins B1, B6 and B12, one tablet each day, he became better from his headaches and ocular paresis. Now he can decide his future health: “To drink or not to drink”, this is the question.

At the Children’s Hospital Los Angeles, “patients 11 years and younger diagnosed with idiopathic intracranial hypertension... Of the 10 patients, four were girls and six were boys. Only one patient was obese. The most common presenting symptoms were stiff neck (four patients) and diplopia (four patients). Six of eight patients with strabismus had abducens nerve palsy (four bilateral), one patient had a sensory exotropia, and one had a comitant esotropia. Visual field abnormalities were present in 11 of 13 eyes (85%), and severe visual loss resulting in no light perception vision occurred in one eye of one patient. Resolution of papilledema occurred rapidly in all patients, with a mean of 4.7 +/- 2.6 months. Resolution of sixth nerve palsy also occurred rapidly in four of six patients in a mean of 1.6 +/- 1.2 months. One patient required strabismus surgery for persistent esotropia.”(Cinciripini G S, and others).

It was only missing to question them about their caffeinated drinks.

On the Department of Ophthalmology, University of Arkansas Medical Center, USA, “Three children with pseudotumor cerebri presented with vertical diplopia and clinical signs of fourth cranial nerve palsy including a hypertropia of the affected eye, which increased with adduction and ipsilateral head tilt. The fourth cranial nerve palsy resolved after reduction of the intracranial pressure in all three children.” (Speer C, and others).

Adie’s pupil – Tonic pupil. It is defined as a dilated pupil, constricting poorly to light and exhibiting light-near dissociation. It is consequent to a parasympathetic fibers lesion, probably at the 3rd cranial nerve. It can be caused by the Cerebrospinal fluid hypertension squeezing the nerve, or by the vasospasm and consequent ischemia caused by the caffeine, in a person with some propensity to it. We had no cases with it.
XIII- g - Cerebrospinal Fluid Hypertension squeezing the 5th cranial nerve and the Gasserian ganglion: Trigeminal Neuralgias: The squeeze of the Trigeminal Semilunar ganglion (Gasserian ganglion) by the Cerebrospinal Fluid Hypertension is the main etiology of most Trigeminal Neuralgias.

- The Trigeminal Semilunar ganglion is at the midway between the Cerebrospinal Fluid hypertension which compresses its roots in the skull, and the Ophthalmic, Maxillary and Mandibular nerves at the outside of the skull and free from any fluid’s pressure. The Gasserian ganglion is just like a cork holding the pressure in our head. Consequently, the main treatment to cure the Trigeminal Neuralgia is the lowering of the Cerebrospinal Fluid's Hypertension. To cure this neuralgia, it is not necessary to mutilate the patient, destroying the ganglion or any nerve: it is only necessary to shorten the caffeine, beer, wine and excessive water from the patient's daily diet. So much suffering with so easy cure.

XIII- h - Cerebrospinal Fluid Hypertension squeezing the 7th cranial nerve: Bell palsy (Peripheral Facial Palsy): The acute squeeze of the Facial nerve (seventh cranial nerve) presents with sudden peripheral hemi-facial palsy at morning (Bell palsy). Its pathophysiology is similar to that of the NAION described above: The cerebrospinal fluid higher pressure and the caffeine cause the 7th nerve edema. As the nerve pass by a bone's canal, its rigidity strangles the swollen nerve, the pressure in the canal surpasses the arterial pressure and the ischemia causes the sudden infarction of the nerve. Any physician can know its etiology, by asking to the patient about his drinks before the palsy.

It is possible that some peripheral facial (7th Cranial nerve) palsy be consequent to the cold exposure at night, or the cold can be only a trigger in a patient filled up with caffeine and beer. We could not clarify this.

Bell palsy caused by caffeine and excessive water: We had a 32-year-old man, weighting 160 Kilograms (352 pounds), drinking beer and plenty of water daily, added by coffee, mate and tea. He only complained of small photophobia. His eyes were normal On the examination, we found his intraocular pressures of 18 mmHg in both eyes, and the Optic Nerves shown no cups and a little borders edema of 0.25 dioptre, classified as 0/0/0/0.25. We prescribed him to stop drinking beer, coffee, mate and tea, and reducing the water drank, but without being obeyed.

After two years, he returned presenting peripheral left facial palsy, and his Optic Nerves show 0/0/0/0.5 and 0/0/0/0.75 right and left eyes (cup diameter/ cup depth/ lamina Cribosa's pores visibility/ borders edema), which is typical of the Cerebrospinal Fluid Hypertension.

After more one year, with medicament and diet to weight-loss, he presented with only 135 Kilograms (297 pounds), drinking 5,500 milliliters of water, coffee 1,000 milliliter and tea 1,000 milliliter daily. His Optic Nerves show 0/0/0/1 in both eyes. This is a dangerous situation, and unless he reduces his drinking habits, he is prone to present more anyone of the many sicknesses consequent to the Cerebrospinal Fluid Hypertension Syndrome.

“Allergic” rhinitis and tearfulness:
A- The chronic compression of the Facial nerve (seventh cranial nerve) by the Cerebrospinal Fluid is one of the etiologies of the tearfulness we frequently found on our migraine patients, as a migraine variant. It can be also the etiology of some “allergic” rhinitis, which it is not allergic at all. Other etiologies of the “allergic” rhinitis, are:
B- Rhinitis with coryza, secondary to the tearfulness caused by the Ocular Hypertension, as a neural reflex.
C- Rhinitis without coryza, caused by the Cerebrospinal Fluid Hypertension squeezing the Olfactory nerve (the first cranial nerve) at the Ethmoid's lamina cribosa.

Dry eye syndrome: The definitive damage of part of the seventh cranial nerve caused by the Cerebrospinal Fluid Hypertension and the caffeine intoxication can cause definitive tears reduction and consequent real Dry eye syndrome.
Migraines, facial palsy, beer, excessive water and caffeine: We had a 48-year-old white man, 1.78 meters (5 feet and 10 inches) tall, 80 Kilograms (176 pounds). For more than the last 10 years, he used to drink daily 300 milliliter of coffee, 600 milliliter (20 fluid ounces) of cola soft drink, 4,500 milliliter (more than a gallon) of water and some beer. He also used medicament for arterial hypertension. His father had Glaucoma. He felt chronic Maxillary aches classified as “sinusitis” and sometimes nasal obstruction.

Suddenly, he woke with inferior left facial palsy. After one week, on the examination we found Optic Nerves’ disks edemas of one dioptre and without any cup in both eyes, which we classified as 0/0/0/1. His intraocular pressures were 30 and 28 mmHg right and left eyes, which are high. With these high intraocular pressures, any “normal” person should be presenting increased cups in his Optic Disks. The fact that he presents no cups, but on contrary, he has disks edemas, is the evidence that his Cerebrospinal Fluid pressure is bigger than these pathological high intraocular pressures. This is the Pseudotumor cerebri (Benign Intracranial Hypertension) in addition to the Bell palsy, consequent to the Cerebrospinal Fluid Hypertension Syndrome, caused simultaneously by heredity, caffeine, excessive water and beer drank daily.

Remarkably was the endurance of all his nerves to this Cerebrospinal fluid hypertension for more than 10 years, before the damage occurrence in the seventh cranial nerve.

Sjögren syndrome: “Patients with Sjögren Syndrome showed larger ventricular volume than control subjects with migraine. The severity of Magnetic resonance imaging signal hyperintensities and ventricular volume were related to several cognitive and psychiatric variables.” (Mataró M, and others).

“Over a period of 10 years, a 49-year-old man had 3 episodes of recurrent cranial nerve palsy regressing within a few weeks. Each episode was accompanied with acute inaugural headache and diplopia and once with sensory impairment of the trigeminal nerve and once with tinnitus. The diagnosis of Goujerot-Sjögren's syndrome was retained ...” (Bakouche P, and others).

“All these above sicknesses probably were consequent to the simultaneous Cerebrospinal Fluid's Hypertension squeezing the brain and all the nerves in the skull, added by the caffeine intoxicating the entire body.”

XIII-1 - Cerebrospinal Fluid Hypertension squeezing the 8th cranial nerve: The Cerebrospinal Fluid Hypertension can squeeze the Vestibular and Cochlear Nerves, which together are the Acoustic Nerve, which causes earaches, nausea, retching, vomit, dizziness - vertigo, buzzing and deafness. Red ear syndrome and erythromelalgia are reflexive external ears manifestations of the 8th cranial nerve sufferings. Sometimes the squeezed Cochlear Nerve changes the physiologic sounds into pathological sonorous sense, worsening the migraines by the sonorous stimulus. This is the allodynia of the cochlear nerve: the sonic phobia or phonophobia.

The labyrinthine disturbance can cause a sudden fall of the patient, without loss of conscience or any other complaint. All the medical exams show a healthy patient. We had patients with this unexplained sudden fall, caused by daily chocolate in addition to coffee 100 milliliters, and more psychological stress, which means self-made excessive adrenaline (Epinephrine) and corticosteroids.

The Vestibular disturbance can cause the Vasovagal response or syndrome. It can be improved by withdrawing the caffeine from the patient’s diet.

Basilar migraines' (Bickerstaff syndrome) five pathophysologies:
1- The Cerebrospinal Fluid Hypertension can cause the definitive 8th. Cranial nerve damage, as Ménière’s disease, Sensorineural Hearing Loss (deafness) and Labyrinthitis.
2- The vasoconstriction (vasospasm) of the Basilar artery, causing ischemia and dysfunction of this Central Nervous System area. This can be caused by caffeine or other vasoconstrictor.
3- Damage in the Inner Ear, the Labyrinth, can be caused as by the Inner Ears' fluids (Perilymph and Endolymp) Hypertension, as by other etiologies.
4- Congenital hypoplasia of the Basilar artery, in addition to some vasoconstrictor action, as caffeine.
5- Acquired obstruction of the Basilar artery.
“Thirty-five patients with Migrainous vertigo had comprehensive neurotological tests between attacks. Three patients showed saccadic pursuit (8.6%), in one of whom saccadic hypometria was also present. Caloric test results revealed unilateral caloric hypofunction in seven patients (20%). Static posturography results revealed increased sway velocity when the eyes were closed or the platform was distorted. These findings during the symptom-free period revealed that peripheral vestibular dysfunction was more common than a central deficit.” (Celebisoy N, and others).

“Basilar Migraine,... consists of headache accompanied by dizziness, ataxia, tinnitus, decreased hearing, nausea and vomiting, dysarthria, diplopia, loss of balance, bilateral paresthesias or paresis, altered consciousness, syncope, and sometimes loss of consciousness. Basilar Migraine is observed most frequently in adolescent girls and young women.”(Dafer R M).

“Basilar-type Migraine occurred in 10% of patients with Migraine with typical aura.” “Basilar-type aura seemingly may occur at times in any patient with Migraine with typical aura.”(Kirchmann M, and others).

The Cerebrospinal Fluid hypertension also cause simultaneous Endolymph hypertension because there is a communication between both fluids’ pressures by the Cochlear Aqueduct. The fluids do not communicate between them: only the pressures communicate. As the inner ears’ fluids are inside delicate membranous structures, the Endolymphatic hypertension causes immediate Perilymphatic hypertension, and both consequently squeeze the sensory inner ears’ structures and cause any of the signs and symptoms above described as Inner Ear’s Hypertension Syndrome.

We found much difficulties about discriminating between the signs and symptoms of the Cerebrospinal Fluid Hypertension Syndrome squeezing the Acoustic Nerve (together with other cranial nerves), from those signs and symptoms of a pure Inner Ear’s Hypertension Syndrome. It seems to us that the Cerebrospinal Fluid Hypertension Syndrome causing inner ears’ symptoms is common, and the pure Inner Ear’s Hypertension Syndrome is rare.

“We investigated the neurotological findings of 17 patients with migraine, 20 patients with tension-type headaches... All patients in this study experienced vertigo or dizziness before they underwent the examination... All patients in this study were tested during headache-free intervals. The average values in absolute deviations of subjective visual vertical in patients with tension-type headache (1.3 +/-1.1 degrees ) and patients with migraine (1.5 +/-1.2 degrees ) were significantly larger in comparison with those of patients without headache (0.6 +/-0.4).” (Asai M, and others).

Cochlear (Inner ears) dysfunction. Phonophobia. Increased sound aversion: “A significant difference was detected only at 5 kHz frequency, where distortion product Otoacoustic emission amplitudes in migraine with aura were lower than in controls... In patients with migraine without aura and migraine with aura, mean amplitudes of transiently evoked Otoacoustic emissions were not suppressed by contralateral sound stimulus... (which) indicates the presence of dysfunction either in the medial olivocochlear complex in the brainstem or at the synaptic transmission between olivocochlear efferents and outer hair cells in the cochlea. Disruption in the contralateral suppression may be one of the mechanisms predisposing to the phonophobia symptom associated with migraine headache.” (Bolay H, and others).

“Interictal mean sound aversion threshold of migraineurs, averaged for the three frequencies of 1000, 4000 and 8000 Hz, was significantly lower than that of controls (90.4 dB vs. 105.9 dB, respectively). In migraineurs, mean ictal sound aversion threshold, averaged for the three frequencies, was significantly lower than interictal sound aversion threshold (76.0 dB vs. 91.0 dB, respectively). Patients with Episodic migraine exhibit increased sound aversion between attacks that is further augmented during an acute attack.” (Ashkenazi A, and others).
XIII- j - Cerebrospinal Fluid Hypertension squeezing the 9th, 11th and 12th cranial nerves: Their chronic compression by the Cerebrospinal Fluid Hypertension is the etiology of chronic dry cough, laryngitis and hoarseness, with months or years of duration that we observed frequently in our patients. They present at our ophthalmological office after laryngological and pulmonological examinations with “normal” results and no diagnosis. They cure easily with the therapy of the Fluids Hypertension Syndromes: withdrawing their etiologies and no medicament.

XIII- k - Cerebrospinal Fluid Hypertension squeezing the 10th cranial nerve: The Vagus nerve squeezed by the Cerebrospinal Fluid Hypertension is the etiology of many visceral disturbances, mainly in children. The episodes of unexplained abdominal pain, nausea and vomiting occurring in the absence of headache are denominated as Abdominal Migraines. Cyclic vomiting syndrome is characterized in children by repeated episodes of vomiting. These syndromes can be caused also by two other etiologies:
- By the toxicity of caffeine alone in the 10th cranial nerve; or
- By the Inner Ears’ fluids hypertension (8th cranial nerve) causing neural reflexes in the 10th cranial nerve.

The patients can present:
- Abdominal pain,
- Nausea, Retching, and Vomits.
- Dehydration.
- Anorexia,
- Pallor,
- Slenderness,
- Lethargy and Weakness.

And all of this sufferings are caused by the “Occidental way of life”: plenty of caffeine and chocolate daily to the women and children. Chocolate is delicious, isn't it? We did not make statistics on this.

Many visceral diseases caused by the 10th cranial nerve intoxicated by daily little caffeine and chocolate: We had as patient a beautiful Mulatta, with grandparents Indian, European and Brazilian White. She is a bank-manager, with 32 year-old, 1.63 meter tall (5 feet and 4 inches), weighing 66 kilograms (146 pounds), one child. She drinks daily strong coffee 50 milliliters (2 fluid ounces), caffeinated cola 300 milliliters (10 fluid ounces) each 2 days, and eats black chocolate daily. From many years until now, she is suffering with daily continuous obstructive rhinitis, dry eyes (when she weeps there are no tears), esophageal reflux, diarrhea, enteric bleeding, colic at the left hypochondriac region, and was just now diagnosed as Crohn’s disease. Her eyes pinch, she rubs them and they become red easily. She had many biliary calculus and had her biliary bladder excised with only 28 year-old. She has strong premenstrual tension and back-aches. Her ophthalmological examination was nearly normal: No eyeglasses needs, intraocular pressures physiologic, Optic Nerve’s disks cups with 0.2/1/0/0.25 which is normal, deep physiologic anterior chambers. There was only a bilateral eyes redness and dryness.

All those sufferings were caused by a continuous poisoning during 32 years of daily caffeine and chocolate (theobromine), in a person with extreme sensibility to them.

Chocolate and coffee are delicious, aren’t they? Take more of them! You deserve them!

We have one doubt about this patient: how many of her sufferings were from the Cerebrospinal Fluid Hypertension caused by the caffeine, and how many were from the caffeine and theobromine poisoning the Vagus Nerve and the other nerves, unrelated with the fluids pressures?
XIII-1 - Cerebrospinal Fluid Hypertension squeezing the Spinal nerves: The Cerebrospinal Fluid Hypertension also squeezes all the 31 pairs of nerves that depart from the spinal chord, which is the etiology of many recurrent aches: “backaches” (back pain), sciatica, neuralgia, arthritic aches, limb pain, “allergic atopic neuro-dermatitis” spread all over the body without any dermatological damage, compressive radiculitis, spinal osteophytosis, spondylitis, rheumatism, cervical brachialgia, and multiple somatic aches known as fibromyalgia. Although many of our patients had orthopedic and rheumatic diagnosis with real damage, their aches decreased or cured after one month without caffeine, wine, beer or excessive drinks of water. It was not necessary any medicament or surgery. The orthopedic damage remained there, only the aches cured. Do you not believe it? Try it!

“Patients with chronic back pain consume over twice as much caffeine as patients without chronic back pain.” (McPartland J M, and Mitchell J A).

The squeezing of the cervical second branch (C2) at the nape, in addition to some anatomic propensity or previous lesion, can cause the “neck-tongue syndrome”.

Tiredness, limb’s aches and Fibromyalgia, caused by caffeine and excessive water: We had a 50-year-old white woman, housewife, two children, 1.59 meters (5 feet and 3 inches) tall, 62 Kilograms (136 pounds), complaining of excessive tiredness and chronic aches on her arms and legs, so intense that she did not go out of home with her family on the Carnival holidays. She also complained about nausea and retching with her visual efforts. She was using eyeglasses for Hyperopia and presbyopia. She drank coffee 500 milliliter (more than one pint) and water 3,000 milliliter (three quarter of a gallon) daily. When she felt aches, she drank caffeinated over-the-counter analgesics.

On her ophthalmological examination we found “all normal” with her eyes and eyeglasses, intraocular pressures of 14 and 14 mmHg (physiologic), shallow anterior chambers, but her Optic Nerve’s disks show 0/0/0/0.5 (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in both eyes, which characterizes the Cerebrospinal Fluid Hypertension Syndrome. We prescribed her to stop all coffee, caffeinated analgesics and excessive water.

After one month, she came referring to be “entirely cured” from the nausea, tiredness and limbs aches. For so much sufferings, it was very easy to cure her, wasn’t it?

- Curing Sciatica and preventing blindness caused by a Pseudotumor Cerebri: We had a Black woman, 47-year-old, nurse, weighting 65 kg (143 pounds), 1.69 meters (5 feet and 6 inches) tall, two children. She drank 4,300 milliliter (more than a gallon) of water and juices daily in order to prevent constipation, up to 400 milliliter (up to 13 fluid ounces) of coffee daily and a small beer can with around 300 milliliters on weekends. She used to present premenstrual wide frontal Migraines, “allergic” Rhinitis, Pharynxitis, Dizziness, and paralyzing Sciatic aches. Multiple exams and medicaments including corticosteroid therapy did not make her better. On ophthalmological exam, we found the need of small eyeglasses (+0.50 spherical dioptre) for distance, and presbyopia. The intraocular pressures were 16 mmHg in both eyes, which is physiologic. Her anterior chambers were very shallow. The direct ophthalmoscopy revealed 0.4/2/0.75 and 0/0/0/1 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in her Optic Nerve’s disks, with abundant white sheaths around the Optic Nerve’s disk vessels The Retinal Central vein and its branches were engorged. These enormous disk edemas configure the Benign Intracranial Hypertension (Pseudotumor Cerebri), prone to cause some blinding damage. We prescribed her new eyeglasses, to stop all caffeine and to shorten the excessive water drinks.

After 14 months, she came again for new eyeglasses. All those signs and symptoms became better, including the sciatica which disappeared without medicament or surgery. Her Optic Nerve’s disks on direct ophthalmoscopy show almost the same aspect than before, but the borders edemas reduced, and were substituted by a grayish aspect, very difficult to differentiate from the edemas. The white sheaths were similar to before.

Here we see how easy is to cure the Pseudotumor Cerebri and many sufferings, and to prevent some blinding sickness, only shortening the excessive water, all coffee and beer drinks. There is not necessary any medicament or surgery.
The Cerebrospinal Fluid hypertension squeezing the roots of the first and second cervical nerves explains the neck aches and migraines felt by many patients, known as “Tension Migraine”. But there is other ocular etiology for the Tension migraine, explained at the chapter Pathophysiology.

Racial predisposition, much water and caffeine, causing many sicknesses: We had a slim 50-year-old black patient, 1 daughter, 1.70 meters (5 feet and 7 inches) tall, 54 Kilograms (119 pounds). During the last 30 years, she drank daily 1,000 to 2,000 milliliter (a quarter to half gallon) of coffee and around 5,000 milliliter (one and a quarter gallon) of water. She presented plenty of signs, symptoms and sicknesses during all those 30 years, as headaches, dizziness, backaches, hands edemas at morning, Fibromyalgia, Endometriosis and Glaucoma. Sometimes she presented diffuse muscular paresis, which make her need of hospitalization and a wheel chair for locomotion. On another occasion, the vertigo was so intense that she was unable to walk for one week. After many medical exams, the physicians found nothing to explain her sicknesses, or medicaments to cure her. She takes many medicaments only for the symptoms relief. Her intraocular pressures in our office were 18 and 16 mmHg right and left eyes, which are physiologic. The anterior chambers were deep. At her ophthalmoscopic exam, we found Optic Nerves’ disks of 0.7/3/2/0.25 and 0.6/3/2/0.25, (Cup diameter/ Cup depth/ lamina cribosas’ pores visibility/ borders edema) right and left eyes, which characterizes incipient and suspect glaucomas from Ocular Hypertension Syndrome, and simultaneous Cerebrospinal Fluid Hypertension Syndrome.

After one year she came better from all those sufferings, but believed that it was the medicament prescribed by other doctor who cured her.

Here we note:

a- The fantastic endurance of these nerves that, in spite of all those years of coffee and much water and after all those signs and symptoms, they cure only presenting few definitive damage.

b- The variety of sufferings caused all those year in one patient, only because the patient did not know her sensibility to the caffeine and excessive water drank.

c- The difficulty of the patient, even after cured, in believing that the caffeine and excessive water caused all those sufferings.

Atopic Neurodermatitis spread over all the body (Dermic Neuralgia). This is an evidence of the alldynia, caused by the Cerebrospinal Fluid Hypertension squeezing all the spinal nerve’s roots, and also by the caffeine intoxicating these nerves.

Compressive radiculitis: They are consequent to the compression caused by the Cerebrospinal Fluid Hypertension, and mainly consequent to the caffeine and excessive water ingestion. Here is one of them:

Cervical Compressive Radiculitis, many Migraines and other sufferings caused by coffee and excessive water: On the year 2005 we had a 41 year-old nurse, “Brazilian White”, with Portuguese, Spanish and one great-grand-mother Indian ancestors. She was 1.54 meters tall (5 feet and half inch), weighing 71 kilograms (157 pounds). She drank 300 milliliters (10 fluid ounces) of coffee, and 3.3 liters (nearly one gallon) of water daily. She had two children. For more than ten years she complained of many aches, mainly from bi-temporal migraines at morning, with auras of bi-temporal visual fields darkening. She remembered that her sufferings began with 30 year-old, when she began to work at night duty, and increased the coffee drinks to stay awake. She was many times examined, including with head Computer Tomography and Magnetic Resonance, and medicated without success. At the year 2005, we did know enough and could not cure her.

On the year 2007, she came with the same migraines and visual darkening complaints, in addition to strong occipital headaches extending to her both arms, forearms and hands, which the Neurologist diagnosed as Compressive Radiculitis at her neck. She sometimes presented horizontal diplopia, matutinal retching and vomits, which supposed her to suffer from some expansive cranial sickness, already discarded. She had made physiotherapy and medicaments, again without success. On the ophthalmological examination we found the need for eyeglasses for near and for distance, which is common to
her age. The Optic Nerves' disks on direct ophthalmoscopy show 0.2/2/0/0.5 in both eyes (cup diameter/cup depth/lamina cribosa's pores visibility/borders edema), which is the evidence of the Cerebrospinal Fluid Hypertension Syndrome. We prescribed her new eyeglasses, and to stop all caffeine and reduce the water drank to the thirst needs.

After one month, she came back “all cured” from the auras, diplopia, migraines and aches included the “compressive radiculitis” of her arms and hands. She was so happy that she blessed me.

After more one year she came, entirely cured, and her Optic Nerves' disks show 0.2/1/0/leftovers of the old borders edema.

Dermographism. Dermatographic urticaria. Skin writing: It is an excess of dermic neural reflexes. It is one of the many manifestations of the Cerebrospinal Fluid Hypertension Syndrome squeezing the nerves, and the caffeine intoxicating all the nerves. It is a migraine variant.

**Dermographism, bi-temporal migraines and rhinitis consequent to caffeine:** We had a 35-year-old strong man, office-boy, with 1.68 meter (5 feet and 6 inches) tall, weighing 75 kilograms (165 pounds). He had 1 grandfather Italian, 2 grand-parents Brazilian White, and 1 grandmother Indian.

Physically, he was more Indian than White. He was complaining of continuous 10 years of bitemporal daily migraines after dinner, medicated with one or two tablets of caffeinated analgesics, matutinal sneezes and hoarseness, “allergic” dermatitis medicated with daily Hydroxizine (anti-histaminic), and symptomatic dermatoglyphic. He referred that the beginning of his symptoms were related with the beginning of work 10 years ago. When asked, he remembered that on that occasion he also begun to drink more free coffee daily at the office. He was drinking coffee 200 milliliters (7 fluid ounces), and colas soft drinks more than 1 liter (2 pints) daily, besides water 1 liter (2 pints). On ophthalmological examination we found that he needed eyeglasses for a small astigmatism (1 dioptre) only in his right eye; his intraocular pressures were 18 mmHg in both eyes, and deep (physiologic) anterior chambers. On direct ophthalmoscopy his Optic Nerves show 0/0/0/0.5 (cup diameter/cup depth/lamina cribosa's pores visibility/borders edema), besides small white sheaths around the arteries and veins only at the Optic Disks. This is the evidence of the Cerebrospinal Fluid Hypertension. We prescribed him the eyeglasses and to stop all caffeine.

After 2 months he came for revision, entirely cured from all those sufferings, without any medication. He could not stop all the caffeine, and was drinking only 50 milliliters (2 fluid ounces) at morning, but stopped all colas and caffeinated analgesics. His dermatoglyphism also vanished. His intraocular pressures show 16 and 17 mmHg right and left eyes. His Optic Nerves show 0/0/0/0, with complete resorption of the borders edemas, which is rare in so few time. There were still few and small white sheaths on the Optic Nerve's disk vessels.

From now on, he is a healthy strong man. It is good to cure so many sicknesses so easily, isn't it?

**Fibromyalgia.** All patients we had with Fibromyalgia were caused by the Cerebrospinal Fluid Hypertension, consequent to the excessive water drank and the caffeine intoxication. They engorge and squeeze the spinal nerves and transform their physiological sensations into aches: this is the Allodynia. Wine and beer also worsen it. Our patients with Fibromyalgia cured withdrawing these etiologies. The medicaments are useless.

Synonyms and related keywords (Winfield J):

- Fibrositis,
- Widespread Chronic Pain Syndrome,
- Tension Myalgia,
- Diffuse Myofascial Pain,
- Chronic Fatigue Syndrome,
- Hyperalgesia,
- Functional Somatic Syndrome.

**Neurodermatitis:**

Curing Neurodermatitis caused by excessive water: We had a 63-year-old woman, clear-mulatta,
1.53 meter (5 feet) tall, weighting 58 Kilograms (128 pounds). She drank 4,000 milliliter (1 gallon) of water daily for “depurations of the body’s toxins” prescribed by her physician, and as presented varicosities and edemas in her legs, the same physician simultaneously prescribed her daily diuretic tablets to eliminate the excessive water, continuously during 5 years. She also presented diffuse “allergic” Atopic Neurodermatitis (Dermic Neuralgia), which were diffuse dermatological aches over all her body but without any sign at the aching points. We prescribed her to stop the diuretics and the excessive water drank.

One month after decreasing the excessive drinks of water and stopping the diuretics, all the Dermic Neuralgia, part of her varicosities and her leg’s edemas became better.

What kind of medicine is this, that prescribe to drink 1 gallon of water daily, and diuretics to eliminate the same water which is causing edemas, for 5 years? Is this medicine?

Sciatica. This lancinating ache is the addition of the intervertebral disk damage causing the reduction of the intervertebral space, with the Cerebrospinal Fluid Hypertension, caffeine and beer causing the nerve's edema, which strangulate the nerve root in the spine. We have cured our patients’ aches stopping their caffeine drinks, excessive water, beer and wine, without any surgery. The vertebral disk damage remains there; only the aches disappear, because also disappears the nerve root's edema and the strangulation finishes. It is easy to cure, is not it?

Feet aches: Some feet aches were so strong that turned impossible for the patients to stand up at morning. The patients had no lesion, they had only the aches. They became better withdrawing their drinks of excessive water and caffeine.

However, if you are a surgeon and you want to profit from surgeries, you must not prescribe the reduction of caffeine, wine, beer and excessive water of your patients, because they will cure and they no more will need your surgical work.

XIII- m - Cerebrospinal Fluid Hypertension squeezing the Brain, the Spinal Cord and the Pituitary gland; The Cerebrospinal Fluid Hypertension also squeezes the Brain, the Spinal Cord, their arteries and veins, and the Pituitary gland. Probably this squeeze repeated hundreds or thousands times, in addition to the toxic effect of caffeine, cause definitive White and Gray Matter damage, which manifest after many years as definitive Neuropathies. Which are they?

- Alzheimer’s disease?
- Amyotrophic Lateral Sclerosis?
- Cerebellar stroke?
- Cerebral Infarction, white and gray matter damage and decrease?
- Cerebral Small Vessel Disease?
- Empty Sella Turcica Syndrome.
- Epilepsy?
- Galactorrhea-Amenorrhea?
- Hereditary cerebral amyloid angiopathy?
- Multiple Sclerosis?
- Pituitary hormonal disturbs and Hypothyroidism?
- Cerebellum and brainstem volumes reduction in chronic migraine. (Bilgic B and others).
- Other? All of them?

We suppose that the first occurrences of these sicknesses and their relapsing are consequent to many years of daily drinks of caffeine, beer, wine, or excessive water. These brain and spinal chord damage also can be caused by ischemia, which occurs mainly in the migraines with aura. Here are some of them:
1 - Alpha rhythm changes: “The accumulated burden of migraine caused slight alterations in the physiology of the visual cortex. Small alpha rhythm changes were observed along the migraine cycle.” (Bjork M H, and others).

2 - Alzheimer disease: There are hypothesis correlating Alzheimer disease with Open Angle Glaucoma and Normal tension Glaucoma, from Suzuki J, and from Tamura H.

Wostyn P, supposes that the etiology of Alzheimer disease is the cumulative and repeated rise of Cerebrospinal Fluid pressure when the patient does Valsalva maneuvers. The Valsalva maneuver is one etiology of acute Ocular and Cerebrospinal Fluid Hypertension.

On “27 individuals at risk for familial Alzheimer's disease… Twenty-three subjects were at risk for PSEN1 mutations and 4 for an APP substitution… Mutation carriers were more likely to report significant recurrent headache than non-mutation-carrying (67% vs. 25%). Forty percent of mutation carriers had headaches that met criteria for migraine whereas 17% of non-mutation-carrying met such criteria. In this population, headache was more common in nondemented familial Alzheimer's disease mutation carriers than non-mutation-carrying.” (Ringman J M, and others).

“High prevalence of Cerebrovascular disease and Alzheimer's disease in patients shunted for idiopathic normal-pressure hydrocephalus; ... The findings support the perception of Idiopathic Normal-pressure Hydrocephalus as a multiaetiological clinical entity, possibly overlapping pathophysically with Cerebrovascular disease and Alzheimer's disease.” (Bech-Azeddine and others).

Some authors correlated Glaucoma with Alzheimer disease: “Visual field defects and/or optic disk cupping compatible with the diagnosis of glaucoma were found in 29 out of 112 patients with Alzheimer’s disease (25.9%)” (Bayer AU, Ferrari F, and Erb C).

“Our results suggest that in patients affected by ocular hypertension, glaucoma, demyelinating optic neuritis, and Alzheimer's disease there is a reduction of (ocular) Nerve Fiber Layer thickness” (Parisi V).

“The IL-1α (-889) T allele polymorphism, previously shown to increase IL-1 gene expression, (which has been associated with an elevated risk of Alzheimer's disease), may be a risk factor in the development of primary open angle glaucoma.” (Wang C-Y, and others).

Glaucoma (from the Ocular Hypertension) frequently occurs together with the Cerebrospinal Fluid Hypertension. Therefore, the chronic Cerebrospinal Fluid Hypertension may be the cause of the Alzheimer’s disease.

3 - Amyotrophic Lateral Sclerosis (Lou Gehrig disease): We suspect, but we cannot prove that the Cerebrospinal Fluid Hypertension or caffeine has something with the etiology of this disease. Here is one patient:

- Aches from Repetitive Motion Injuries and Migraines caused by caffeine and excessive water (and Amyotrophic Lateral Sclerosis?): We had a 20-year-old miss, 1.63 meters (5 feet and 4 inches) tall, 65 Kilograms (143 pounds) of weight, with Black father, and Black, Indian and White mother’s ancestors. She was complaining of headaches at her occipital, bi-temporal and head’s top areas, numbness and formicating at her left hand, infertility and miscarriages. She was a web designer, and one physician diagnosed her hand’s symptoms as Repetitive Motion Injuries. She smokes 40 cigarettes, drinks coffee 500 milliliter (more than a pint) and strong tea “Chimarrão” 5,000 milliliter (nearly one and a half gallons) daily. She referred that her mother also smoked 40 cigarettes each day and drank coffee 1,000 milliliter (33 fluid ounces) daily, for around 40 years. The mother suffered variegated muscles paralysis diagnosed and medicated as Amyotrophic Lateral Sclerosis, and died from a consequence of this sickness.

On the ophthalmological examination of the daughter we found Optic Nerve’s disks with 0.1/1/0/0.5 and 0/0/0/0.5 (Cup’s diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) right and left eyes, which characterizes the Cerebrospinal Fluid Hypertension Syndrome. The caffeine etiology of her sicknesses is evident. As the heredity is a strong factor for these sicknesses, and as the mother and the daughter both drank too much caffeine, are these daughter’s sicknesses the antecedent of her Amyotrophic Lateral Sclerosis, similar to her mother?
4 - Brain disturbs:

“We investigated 35 patients suffering from migraine and … we found a significant decrease of grey matter in areas ascribable to the transmission of pain (cingulate cortex).” (Schmidt-Wilcke T, and others).

“Migraineurs had on average thicker somatosensory cortex than the control group. The most significant thickness changes were noticed in the caudal somatosensory cortex, where the trigeminal area, including head and face, is somatotopically represented. Repetitive migraine attacks may lead to, or be the result of, neuroplastic changes in cortical and subcortical structures of the trigeminal somatosensory system.” (DaSilva A F, and others).

“Caffeine increases energy metabolism throughout the brain but decreases at the same time cerebral blood flow, inducing a relative brain hypoperfusion.” (Nehlig A, and others).

“The protein s100b indicates astrocytal damage as well as dysfunction of the blood-brain barrier. Recently, s100b was shown to be a potentially useful marker for migraine in children. During migraine attacks (in 21 migraineurs) elevated s100b levels could be observed. Maximal concentrations were detected in the pain-free period after 2-4 days. Our data suggest a prolonged disruption of blood-brain barrier during and after migraine attacks.” (Teepker M, and others).

5 - Brain infarct-like lesions, deep white matter lesions, cerebellar infarct-like lesions: The Cerebrospinal Fluid Hypertension squeezes the Brain, Cerebellum and spinal cord. Whether this pressure overpasses the arterial perfusion pressure, it can cause ischemic stroke. It is the brain equivalent to the NAION of the Optic Nerves.

In 161 patients with migraine with aura, and 134 patients with migraine without aura, all Dutch adults aged 30 to 60 years, “In the cerebellar region of the posterior circulation territory, patients with migraine had a higher prevalence of infarct than controls (5.4% vs 0.7%). The highest risk was in patients with migraine with aura with 1 attack or more per month.” “Among women, the risk for high deep white matter damage load was increased in patients with migraine.” “These population-based findings suggest that some patients with migraine with and without aura are at increased risk for subclinical damage in certain brain areas.” (Kruit M C and others).

**Brain infarct-like lesions:** “In total, 39 posterior circulation infarct-like lesions represented the majority (65%) of all 60 identified brain infarct-like lesions in the study sample (n = 435 subjects with and without migraine). Most lesions (n = 33) were located in the cerebellum, often multiple. The majority (88%) of infratentorial infarct-like lesions had a vascular border zone location in the cerebellum.” “Prevalence of these border zone lesions differed between controls (0.7%), cases with migraine without aura (2.2%) and cases with migraine with aura (7.5%).” “The results suggest that a combination of (possibly migraine attack-related) hypoperfusion and embolism is the likeliest mechanism for posterior circulation infarction in migraine.” (Kruit M C, and others).

“The risk of posterior circulation strokes, especially cerebellar, is increased in migraineurs with aura. Female migraineurs, with or without aura, have an increased risk of deep white matter brain lesions.” (Sahai-Srivastava S, and Cowan R).

“These 14 studies suggest that the risk of stroke is increased in people with migraine (relative risk 2.16). This increase in risk was consistent in people who had migraine with aura (relative risk 2.88) and migraine without aura (relative risk 1.56), as well as in those taking oral contraceptives (relative risk 8.72).” (Etminan M, and others).

Most auras are consequent to the ischemia caused by the vasoconstriction. This ischemia, added to the ischemia caused by the Cerebrospinal fluid hypertension, turns the patient with migraines with aura prone to an ischemic stroke.

“Migraine with aura in midlife was associated with late-life prevalence of cerebellar infarct-like lesions on MRI. This association was statistically significant only for women.” (Scher A I, and others).

The estrogens cause liquids retention in the woman body, that rise the Cerebrospinal fluid pressure, which in excess can cause the brain ischemia. This is one more risk factor, which in addition to others, can cause the ischemic brain stroke.
We conclude that to prevent the premenstrual tension and the risk of a brain stroke, any women with her physiologic estrogens, and specially those taking oral contraceptives with estrogen, must stop the other preventable risk factors: caffeine, wine, beer, excessive water drank, and vasoconstrictors like Ergots and Triptans. Otherwise, these risk factors together can become etiologies and cause a brain stroke.

Cerebrospinal Fluid Hypertension Syndrome: the first sign was a Central Retinal Vein Thrombosis or a Stroke. We had a strong “Brazilian white”, with Indian, Black and White ancestors, 38-year-old, electrician. He was 1.70 meters (five feet and 7 inches) tall, and 82 kilograms (181 pounds) of weight. He was complaining only about a small sty on his left upper eyelid since 3 days before, and no other symptom. He was a drinker of daily Guaraná, water around 2,000 milliliters (4 pints) and at weekends some beer, without hangover. This was nothing to alarm.

His mother died with only 37 year-old, from a cerebrovascular accident, a stroke. At that time he was 6-year-old, and remembered that she drank “much coffee”. On the examination, we found no need for eyeglasses, intraocular pressure of 20 mmHg in both eyes, which is moderately high, but no headaches nor migraines. He presented deep physiologic anterior chambers. On direct ophthalmoscopy, his Optic Nerve’s disks show 0.5/3/1/0.5 and 0.2/1/0/0.75 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema). This is a little damage in his right eye from the rise of the ocular hypertension, but it is still without glaucoma, and present evident borders edema on both disks from the rise of the Cerebrospinal Fluid pressure, bigger at the left Optic Nerve. The visual acuity was 20/20 (physiologic) on both eyes, and no need of eyeglasses.

We medicated his sty, and warned him to stop all caffeine and beer. To a Brazilian man at this age this is a difficult task.

He stopped the caffeinated soft drinks, but after one and half month, at a celebration with his friends, he drank five beer cans of 300 milliliters (10 fluid ounces) each, adding up to 1,500 milliliters (50 fluid ounces) of beer. At the next morning, he woke with his left eye cloudy, without any ache. The direct ophthalmoscopy show right Optic Nerve’s disk of 0.5/3/1/0.5; the left eye shows 0/0/0/2 (a papilledema of 2 dioptre), a Central Retinal Vein Thrombosis, many retinal hemorrhages, and Central Retinal venous engorgement on all its branches. The Computerized tomography of his head shows “all normal”. The visual acuity was 20/20 right and 20/80 left eyes. We medicated him with Acetazolamide 125 mg at lunch daily, and recommended him to stop all the beer drinks.

Now after 9 months he came again, without any beer or coffee, without complaints. The direct ophthalmoscopy was in the right eye 0.5/3/1/0.25; the left eye shows 0.1/2/0/rests of 0.75. The visual acuity is 20/20 right eye, and 20/40 left eye.

Did his mother death from a cerebral stroke, was caused by the “much coffee” she daily drank, consequent from the Cerebrospinal Fluid Hypertension?

6 - Empty Sella Turcica Syndrome. This syndrome is consequent to the Cerebrospinal fluid hypertension, squeezing the pituitary gland to its maximum. The empty space is filled with the Cerebrospinal fluid.

“Eight patients had both the "primary empty sella syndrome,... and pseudotumor cerebri...Six complained of headaches and menstrual irregularities, and two were asymptomatic. Three had visual symptoms and four had papilledema. Chronically increased intracranial pressure from pseudotumor cerebri may produce an empty sella if the diaphragm sella is incompetent and the subarachnoid space herniates into the sella turcica.” (Foley K M, and Posner J B).

7 - Epilepsy: “Children with migraine with aura have a substantial increased risk to develop subsequent epilepsy.” (Ludvigsson P, and others). Probably these children have vasoconstriction to cause the aura, and rebound vasodilation to cause the Cerebrospinal Fluid Hypertension and migraines. The aura means that there was an ischemia at some point in the brain, and this ischemic point suffered too much and became a focus of epilepsy. This is a “complicated migraine”.

“In 75 patients with Juvenile myoclonic epilepsy...Headache was present in 47 patients. Thirty-one had migraine [20 migraine without aura, 11 migraine with aura]. Fourteen patients with migraine had
tension-type headache in addition. Sixteen had only Tension-type headache. Comparison with the general population revealed a significantly higher prevalence of migraine (RR 4.4), Migraine without aura (3.6), Migraine with aura (7.3) and Tension-type headache (3.4) in Juvenile myoclonic epilepsy. Risk factors for migraine and Migraine without aura were female gender and for Migraine with aura family history of migraine in first-degree relatives. Migraine and Migraine with aura were associated with fairly controlled generalized tonic clonic seizures, Migraine without aura with absences.” (Schankin C J, and others).

8 - Grey matter decrease: “Patients with chronic tension-type headache demonstrated a significant grey matter decrease in regions known to be involved in pain processing. Modern neuroimaging thus clearly suggests that most primary headache syndromes are predominantly driven from the brain,…” (May A).

“Between 20 migraine patients (five with aura and 15 without aura)… migraine patients had significant grey matter volume reductions in the bilateral insula, motor/premotor, prefrontal, cingulate cortex, right posterior parietal cortex, and orbitofrontal cortex… All regions of the grey matter volume changes were negatively correlated with headache duration and lifetime headache frequency. We found evidence for structural grey matter changes in patients with migraine.” (Kim J H, and others).

“Neuroimaging studies have identified frontal lobe brain abnormalities in migraineurs. Neuropsychological investigations highlighted frontal lobe related cognitive impairments in migraineurs, including working memory and executive function deficits. Migraineurs, compared to control subjects, showed decreased frontal and parietal lobe grey matter density and slower response time to task set-shifting and, the delayed response time correlated significantly with reduced grey matter density of the frontal lobes in migraineurs.” (Schmitz N, and others).

9 - Hemichorea: “We report a 57-year-old woman with a long-history of migraine who suddenly experienced concurrent scintillating scotoma and rapid involuntary movement of her neck and right extremities. Xenon-computed tomography (CT) disclosed gross reduction in the cerebral blood flow of the left occipital area. Extreme hyperperfusion in the motor thalamus was found on the left side. Asymmetrical cerebral blood flow reduction of the left subthalamic nucleus was also noted. Her symptoms gradually improved and completely disappeared within 15 days. Repeated xenon-CT 1 month post-onset demonstrated normalized cerebral blood flow in the affected areas. Our study suggests that vascular event underlies the migrainous aura in this case and secondarily provokes a loss of inhibitory control of the motor thalamus resulting in the manifestation of hemichorea.” (Yamada K, and others).

10 - Hydrocephalus, idiopathic: It can be caused by the sum of at least two risk factors: The mother drinking caffeine and intoxicating her fetus in addition to some genetic sensibility from the fetus. The consequence is the Cerebrospinal Fluid Hypertension compressing the brain and the entire skull from inside out. Whether this higher pressure occurs at very young age, when the Dura mater and skull are still soft, it can cause the Hydrocephalus:

“Both idiopathic intracranial hypertension in adults and idiopathic hydrocephalus in children have been shown to involve elevations in venous pressure that resolve once the cerebrospinal fluid pressure is reduced.” In “Fourteen patients with idiopathic childhood hydrocephalus… the cerebral blood inflow was normal, but the superior sagittal sinus and straight sinus outflows were reduced by 27% and 38%, respectively, compared with measurements in controls. Similarly to patients with idiopathic intracranial hypertension, children with hydrocephalus show a significant elevation in collateral venous flow, indicating that the same venous pathophysiological process may be operating in both conditions. Whether or not the ventricles dilate may depend on the differences in brain compliance between adults and children.” (Bateman G A, and others).
11 - Multiple Sclerosis “is more common in Caucasian populations living in northern latitudes” (Dansgond F). “Consumption of caffeine is highest in Scandinavian countries (as well as in Austria and the Netherlands).” (Suleman A, and Lorenzo N). These populations are the world’s biggest drinkers of caffeine, and also big drinkers of beer. Is their higher incidence of Multiple Sclerosis a cause and effect relation?

There is a recommendation that patients with Multiple Sclerosis should avoid caffeine-containing beverages, “in order to avoid dehydration”. Is this prescription only for that? After examining more than 100,000 patients, we never had a dehydrated patient caused by caffeine.

“The results of this study indicate that the presence of a midbrain plaque in patients with Multiple Sclerosis is associated with an increased likelihood of headache with migraine characteristics.” (Gee J R, and others).

“Primary headaches are known to be associated with multiple sclerosis. In different phases of relapsing-remitting multiple sclerosis...: Migraine (41.2%) and tension-type headaches (20.6%) were the most common headaches in remission, and primary stabbing headache (27.8%) was common in the relapsing phase... The total number of headaches was correlated with periventricular lesions and tension-type headaches were correlated with spinal lesions in remission. Total number of headaches was correlated with brain stem lesions in the relapsing phase.” (Ergun U, and others).

“Among 204 Multiple sclerosis patients, the relative frequency of migraine was threefold higher than in population controls... Migraine in Multiple sclerosis patients was significantly associated with trigeminal and occipital neuralgia, facial pain, Lhermitte's sign, temporomandibular joint pain, non-headache pain and a past history of depression.” (Kister I, and others). These signs and symptoms are typical from the caffeine.

12 - Pituitary hormonal disturbs and Hypothyroidism: The Cerebrospinal Fluid Hypertension squeezing the Pituitary gland disturbs the secretion of its hormones, and consequently disturbs the function of the many glands under its control, including the Thyroid. So, the hypothyroidism can be caused by the Cerebrospinal Fluid Hypertension. The same pathophysiology can cause the galactorrhea-amenorrhea, and other hormonal disturbs.

We suppose that the Cerebrospinal Fluid’s hypertension causes three successive Pituitary disturbs:

a- The acute Pituitary squeezing is caused by an acute Cerebrospinal Fluid pressure rise, releasing excessive antidiuretic hormone in the blood, which retains water in the body and acutely rise more the Cerebrospinal fluid pressure. This vicious cycle causes migraines.

b- The chronic Pituitary squeeze disturbs many glands functions.

c- The complete squeezing of the Pituitary gland, herniating the Cerebrospinal Fluid into the Sella Turcica, results in the “Empty Sella Turcica Syndrome”.

13 - Premenstrual syndrome: It is consequent to the Cerebrospinal Fluid Hypertension squeezing all the nerves and the brain. It is caused by the sum of all the etiologies, in addition to the water retention in the skull and in the entire body caused by the premenstrual peak and physiologic withdrawal of the hormone Estrogen. Whether the patient shortens the water, and stops the beer, wine, caffeine and theobromine drinks, the isolated effect of the Estrogens is reduced, and the patient relieves or gets free from the premenstrual syndrome. This already was discovered by others at the years 1989 and 1990:

In the People's Republic of China, “studying 188 nursing students and tea factory workers... data revealed that tea consumption is strongly related to the prevalence of premenstrual syndrome and that the effects are dose-dependent.” (Rossignol A M, and others).

Rossignol A M K and Bonlander H, studying 841 women between 18 and 22 year-old, found that “there was evidence of an association between caffeine consumption and Premenstrual Syndrome. Among women with more severe symptoms, the relationship between consumption of caffeine-containing beverages and Premenstrual Syndrome was dose-dependent. The prevalence odds ratios were equal to 1.3 for consumers of one cup of a caffeine-containing beverage per day and increased steadily to 7.0 for consumers of 8-10 cups per day. There was no significant difference based on caffeine source.” They also found that the “daily total fluid consumption was related to Premenstrual Syndrome among heavy consumers”.

19
14 - Transient global amnesia: It has been related with cranial arterial and vein thrombosis. It can be secondary to the Cerebrospinal fluid hypertension and respective migraines. The presence of Jugular vein valve incompetence in addition to a Valsalva maneuver can cause it.

“We investigated 6 patients diagnosed with transient global amnesia ... using single fiber electromyography.” “Transient global amnesia shares the same type of subclinical abnormality of neuromuscular transmission observed in migraine patients.”(Ertas M, and others).

15 - White matter abnormalities: “We found increased cortical thickness of motion-processing visual areas MT+ and V3A in migraineurs compared to healthy controls…accompanied by abnormalities of the subjacent white matter. Migraineurs have alterations in superior colliculus and the lateral geniculate nucleus, which are also involved in visual processing.” (Granziera C, and others).

16 - White matter damage: It was described an association between large retinal vein diameter in the eye and progression of brain’s white matter damage (Ikram MK, and others).

The chronic Cerebrospinal Fluid Hypertension squeezes the Central Retinal Vein in the Optic Nerve and causes the retinal vein diameter engorgement in the eye, as explained above at 2nd cranial nerve - Squeezing the central Retinal Vein in the Optic Nerve. Therefore, the Cerebrospinal Fluid Hypertension can be the cause of the brain’s white matter damage.

XIII- n - Inner Ears Fluids Hypertension Syndrome: In the patient with Inner ear’s fluids (Perilymph or Endolymph) deficient resorption, the fluids hypertension causes Migraines, signs or symptoms from the inner ear, as dizziness - vertigo, buzzing, hypersensitivity to sounds, hyperacusis, equilibrium disturbances, and recurrent aches clinically diagnosed as “allergic otitis”. The patient with simultaneous migraine and vertigo, is denominated as having “Vestibular migraine” syndrome.

Whether this rise of Endolymph pressure is too intense or remains too long, it causes definitive inner ear damage, as Endolymphatic Hydrops (Ménière’s Disease), Labyrinthitis and Deafness.

“A total of 25 patients outpatients seen within the study period met the diagnostic criteria for Ménière's disease. There were nine (36%) males and 16 (64%) females. Their ages ranged 27-65 years, mean 45.25 years +/- 11.05. Eight (32%) met International Headache Society criteria for migraine. There is a statistically significant difference between the prevalence of migraine in Ménière's patients and migraine in the overall population (32% vs. 5.3%).” (Ibekwe T S, and others).

We verified the existence of the Inner ear’s Fluids Hypertension Syndrome in our patients by their clinical typical inner ear’s symptoms, its similarity or concomitant with the other two Fluids Hypertension Syndromes, and the observation of these patients healing with the treatment.

In our patients, we could not distinguish between the Cerebrospinal Fluid Hypertension squeezing the 8th cranial nerve, from the Inner Ears Fluids Hypertension Syndrome.

Labyrinthitis and Normal (Peak) Tension Glaucoma without advance notice: We had on the year of 1992 a 14-year-old white and strong boy, which besides the astigmatism in both eyes, also presented an enlarged cup in his Optic nerve’s disks of 0.6/3/1/0 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) without any sign or symptom. He had one great-grandmother Indian, and all the other relatives were white. We did not know anything about the Fluid’s pressures, and we prescribed him only his eyeglasses.

At the year 2001, with 22-year-old, his both Optic Disks show cups of 0.6/4/2/0. His intraocular pressures were 14 mmHg in both eyes, which is physiologic. He did not complain about any sign or symptom. We still did not know enough at that time, and only prescribed him new eyeglasses.
Now at the year of 2008, with 29-year-old, he is a layer, with 1.70 meters tall (5 feet and 7 inches), weighting around 100 kilograms (220 pounds). He came with sudden continuous dizziness for the last 3 days, presenting an unstable gait. Other physician denominated this as Labyrinthitis and medicated him, without much success. He is presenting horizontal nystagmus in both eyes, which is typical of the damage of one of the semicircular horizontal canal in the inner ears. He presents a story of daily drinks of water 3,600 milliliters (one gallon), coffee 300 milliliters (10 fluid ounces), and guaraná one can of 300 milliliters (10 fluid ounces); at Saturdays he drank 1,800 milliliters (60 fluid ounces) of beer; and his girl-friend drank other similar; on the last Sunday he took 3 guaraná tablets of 500 mg each (total 1,500 mg) in order to study many hours during that night. On Monday he woke with the Labyrinthitis, without any other sign or symptom. On his ophthalmological examination after 3 days, we found Optic Nerves’ cups of 0.6/4/3/0 and 0.7/4/3/0 in his right and left eyes, which are suspect and incipient glaucomatous damage. His intraocular pressures in our office repeated 14 mmHg in both eyes, which are normal. His eye’s anterior chambers are shallow, which means that he can easily raise his intraocular pressures. There was no headache or other sign or symptom, nor Cerebrospinal Fluid Hypertension signal in his Optic Nerves’ disks. There was only the Inner Ears’ and Ocular fluids hy-

- hypertension, causing the definitive damage of Labyrinthitis and “Low-tension” Glaucoma in a young person. The “low-tension” means that the Ocular hypertension which caused his glaucoma was at other hour, far from our office, and the intraocular pressures reduced by themselves after causing the Optic nerves’ damages.

Do we need to repeat here to you, who is reading this, that these both serious damages were caused by his drinks of caffeine, beer, and excessive water?

Temporomandibular disorders: “The results of the coordinated treatment showed simultaneous dece-

- reases in the intensities of vertigo, nonwhirling dizziness, tinnitus, feeling of fullness in the ear, pain in the face and jaws, pain in the neck and shoulders, and headache… Significant longitudinal reduc-

- tions in the frequencies of vertigo, nonwhirling dizziness, and headache were also reported by the pa-

- tients as well as a complete disappearance of pain located in the vertex area. A significant relief of tem-

- poromandibular disorders symptoms and a decrease in nervousness was also achieved… The results also suggested that Ménière’s disease has a clear association with temporomandibular disorders and cervical spine disorders and that these three ailments appeared to be caused by the same stress, nervousness, and muscular tension.” (Bjorne A, and Agerberg G).

“The prevalence of temporomandibular disorders in the 99 headache patients was 56.1%... Moderate to severe depression was experienced by 54.5% of patients. Patients with coexistent temporomandibular disorders had a significantly higher prevalence of depression-most markedly in patients with combined migraine and tension-type headache.” (Balegaard V, and others).

We conclude that the three Fluids Hypertension Syndromes pathophysiologies are consequent to relative deficiencies of outflow or resorption of the excessive fluids, consequent to the daily caffeine, wine, beer and excessive liquids drank.

The boundaries from physiologic to excessive drinks vary from the drinks composition and from one person to another. The excessive water drinks can vary from 1,000 milliliter (a little more than 2 pints) to 12,000 milliliter (more than 3 gallons) daily, depending from the patient’s heredity, body constitution, age, climate, physiologic needs consequent to activities, other etiologies, etc. Beer, wine, caffeine, and some medicaments present their own boundaries of excessive consume, much smaller than only tap water, but there are personal tolerances or susceptibilities.

The patient who takes simultaneously two or more etiologies have the Fluids Hypertension effects much increased.

The medical assertion that the Benign Intracranial Hypertension (Pseudotumor Cerebri) is more frequent in the obese women is only a partial truth: “The incidence of Pseudotumor cerebri in children and adults is about 1 in 100,000 per year, with a 19 times increased incidence among obese women of childbearing age”.(Durcan J, Corbett JJ, Wall M). The patient who eats too much and becomes obese, also drinks too much and suffer with the Fluids Hypertension Syndromes. The excessive drinks, and not the excessive foods, are the real etiologies of the Benign Intracranial Hypertension.
Here is one from thousands typical patients with migraines from the Cerebrospinal Fluid Hypertension Syndrome:

**Teenager with Migraines caused by excessive liquids drank:** We had at our office a 16-year-old beautiful Mulatta, 45 Kilograms (99 pounds), 1.56 meters (5 feet and 1 inch) tall, complaining about three days of continuous strong headaches in her eyes, with moderate photophobia and tearfulness, and no other sign or symptom. She does not drink any beer, coffee, soft drinks, wine, medicaments, or contraceptive. She only was drinking 3 bottles of 600 milliliter (20 fluid ounces) each of tap water, and 6 cups of 300 milliliter (10 fluid ounces) each of milk and juices daily, which results in 3,600 milliliter (nearly one gallon) drank each day. She medicates her aches with over-the-counter analgesics with caffeine which made her better for few hours and worsened her at the next day. Her eyes presented 18 and 18 mmHg of intraocular pressures, which is a little high, deep anterior chambers which are physiologic, and on ophthalmoscopy we found both Optic Nerves' disks with 0.1/1/0/0.5 (cup diameter/ cup depth/ lamina cribosa pores/ borders edema), which characterizes the beginning of Benign Intracranial Hypertension.

All her Migraines and other symptoms of the Cerebrospinal Fluid Hypertension Syndrome were caused by the simultaneous etiologies of racial inheritance, sexual hormones, daily excessive liquids drank and some caffeine from her pills.

After reducing the excessive tap water, milk and juices daily drank, and stopping the pills, she entirely cured, without any medicament.

We conclude that the Fluids Hypertension Syndrome sicknesses, signs and symptoms, can affect all people's phenotypes, gender, races and ages, depending from the amounts and kinds of daily drinks, related with their bodies' weights and personal susceptibilities. There are some racial, familiar and aging predispositions, but any person who drinks excessively can suffer from the Fluids Hypertension Syndromes or the caffeine intoxication.

Although we did not make racial statistics, after examining thousands of patients with the fluids hypertension syndromes, the most resistant group seems to be the adults white men, before they become old. Meanwhile, after the 40-year-old and mainly after the 60-year-old, this resistance vanishes and the Fluids Hypertension Syndromes or the caffeine sicknesses sprout.

XIII- b - Usually the three Fluids Hypertension Syndromes happen mixed in the same days, but not at the same hours.

We found patients with Migraine who presented simultaneously Glaucoma in one eye and Optic Nerve’s borders edema in the other eye. This occurred because the Cerebrospinal Fluid pressure rose and caused Optic Nerve's border edema in one eye, but the intraocular pressure of the other eye rose more and caused glaucomatous damage (glaucomatous Optic neuropathy).

We also found patients whose one or both eyes have simultaneously glaucomatous damage (cup/disk of 0.6 or 0.7 and deepness of 3 or 4 dioptre or visibility of the lamina cribosa pores), and the small remaining border of the same Optic Nerve presents edema of 0.5 dioptre. This was only possible because there was a timing difference between the fluids pressures’ rise, from the intraocular Aqueous Humor pressure and the Cerebrospinal Fluid pressure (Scheme IX-2 - repeated). These both fluids’ pressures rise in the same day, but at different hours. At the hour each fluid pressure rises, it causes its specific Optic Nerve’s damage.
Scheme IX-2 (repeated): Simultaneous Edema of the Optic Nerve’s borders caused by the rise of the Cerebrospinal Fluid pressure, and visibility of the Lamina Cribosa pores caused by the rise of the intraocular pressure. This is only possible in the same eye with some timing difference between one and the other pressures rises.

Consequently, these patients present the Migraines of both Fluids Hypertension Syndromes, at different hours.

**Caffeine causing Glaucoma and many sicknesses:** We had at our office a 58 year-old woman, 57 Kilograms (125 pounds) of weight, presenting at her right eye strong aches, eyelids swelling and itching when wakening at morning. She also complained of arterial hypertension (already medicated), retching, years of aches at almost all her joints and backaches. She used to drink daily coffee, tea and soft drinks with caffeine. On the ophthalmological examination, we found both eyes with increased Optic Nerve’s cups, and intraocular pressures of 23 and 24 mmHg (right and left eyes), which are high.

We prescribed her the abstinence of all caffeinated drinks and the use of Timolol Maleate 0.5% eye drops twice daily. After one week, she came again and she had no more aches at all, and presented intraocular pressures of only 16 and 16 mmHg, which are physiological.

She was an example of the intraocular pressure rise and consequent beginning of glaucoma, and the caffeine intoxication in the rest of her body, which were causing the other sicknesses and spreading neuralgic aches. All these sicknesses were caused directly or indirectly by the caffeine, in addition to her personal sensibility to it.
**Scheme XIII-3**: Direct ophthalmoscopic view of simultaneous Edema of the Optic Nerve’s borders caused by the rise of the Cerebrospinal fluid pressure and visibility of the Lamina Cribosa's pores caused by the rise of the intraocular pressure. This is only possible in the same eye with some timing difference between one and the other pressures rises.

**Glaucoma and Bell palsy caused by caffeine, excessive water and beer**: We had a strong black patient, 26-year-old, man, 1.80 meters (5 feet and 11 inches) tall, 97 kg of weight, sound-table operator, who used to drink daily 1,000 milliliter (a quarter gallon) of guaraná and 6,600 milliliter (nearly two gallons) of water. On weekends, he drank 3,600 milliliter (nearly one gallon) of beer. Everyday he felt bi-temporal headaches when waking at daybreak, and retching after the beer consumption. One morning he presented left facial Bell palsy. On his examination, we found Optic Nerve’s cups of 0.8/4/3/0 and 0.7/3/1/0 right and left eyes (cup diameter/ cup depth/ lamina cribosa pores/ borders edema). This is an advanced glaucoma in his right eye and incipient glaucoma in his left eye. His intraocular pressures on the first examination were 20 and 19 mmHg, which are moderately high. His eyes’ anterior chambers were wide open, physiological. This is an example of simultaneous Ocular hypertension (with Glaucoma), Cerebrospinal fluids’ hypertension syndrome and caffeine intoxication (with Bell’s palsy), each one causing its respective definitive damage in a young and otherwise healthy patient. Excessive drinks of beer, caffeine, water, and racial inheritance caused all of these sicknesses. It is evident the timing differences between both damages: The glaucoma progressing slowly for years with many migraines, and the Bell’s palsy occurring suddenly in one night.

We observed that the Inner Ear’s fluids pressures rising and respective Migraines almost ever happen together with the other two Fluids Hypertension Syndromes.

**XIII- p - Borders between the Fluids Hypertension sicknesses**: The sicknesses caused by the Fluids Hypertension have no clear borders between them. Many patients are borderline. The migraines caused by the Ocular Hypertension in a healthy eye interconnects with the Normal (Peak) Tension Glaucoma and with the Chronic Open Angle Glaucoma, and also with the Closed Angle Glaucoma. Their borders are fictitious.
The migraines caused by the Cerebrospinal Fluid Hypertension have relation with many central nervous sicknesses, with the Pseudotumor Cerebri (Benign Intracranial Hypertension), and with the Hydrocephalus. Any physician can define the boundaries of these sicknesses anywhere he wants.
**XIV) – Diagnose and difficulties.**

**Contents:**
1) We diagnose the Ocular, Cerebrospinal and Inner ear Fluids Hypertension Syndromes.
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**XIV-1) We diagnose the Ocular, Cerebrospinal and Inner ear Fluids Hypertension Syndromes,** using the method described above (Chapter III - above):
- **Anamnesis** detailing the patient’s complaints, his daily drinks and medicaments.
- **Optic Nerve's disk direct ophthalmoscopy** with red-free light.
- **Ocular applanation (Goldmann) tonometry**, without the eyelids pressure over the eyes.
- **Ocular refraction** and other exams, when necessary.

**XIV-2) Other exams can detect the proneness to Migraines:** We did not use them, but there are exams of the migraine patients, which even out of a migraine crisis, can show that the patient is not “normal”. Some of them can be showing the effects of the caffeine intoxication.

- **Ankle-brachial index:** Decreased values of Ankle-brachial index are more common in migraineurs than in controls. (Jurno M E, and others).

- **Auditory brainstem-evoked response and neuromagnetic imaging:**
  “After hearing a unilateral, randomly presented sound cue (500 Hz, 30 milliseconds square tone), each subject immediately performed a brisk index finger tapping with either the right or the left index finger... children with migraine had prolonged latency of motor-evoked magnetic response in the right hemispheres during left finger movement (62.33 +/- 34.55 milliseconds vs 34.9 +/- 17.29 milliseconds). In addition, children with migraine had stronger activation in the motor cortex during right finger movement (8097.46 +/- 5168.99 vs 4697.54 +/- 3194.74). There are neurophysiological changes in the motor cortices of children with migraine that can be measured with neuromagnetic imaging techniques.”(Wang X, and others).

- **Cortical and subcortical evoked responses:** “The common forms of migraine are characterized interictally by a habituation deficit of cortical and subcortical evoked responses that has been attributed to neuronal dysexcitability... We measured habituation of visual evoked potentials, auditory evoked potentials including intensity dependence, the nociception-specific blink reflex and compared the results to a group of healthy volunteers. Familial hemiplegic migraine patients had a more pro-
nounced habituation during visual evoked potentials and nociception-specific blink reflex recordings than healthy volunteers. There was no difference for intensity dependence auditory evoked potentials, but the slope tended to be steeper in Familial hemiplegic migraine. Contrary to the common forms of migraine, Familial hemiplegic migraine patients are not characterized by a deficient, but rather by an increased habituation in cortical/brain stem evoked activities. These results suggest differences between Familial hemiplegic migraine and the common forms of migraine, as far as central neuronal processing is concerned". (Hansen J M, and others).

- **C-reactive protein in the blood:** It is a marker of cerebro-vascular and many other diseases: “C-reactive protein may be abnormal in migraine without aura and migraine with aura patients who present with atypical, severe, or complex clinical features” (Welch KM and others).

- **Cerebrospinal Fluid pressure opening in the Lumbar puncture (Spinal tap):** It is an invasive exam, in a naked, bent and very stressed patient, in a surgery room, resulting on a non physiological measure and can cause complications. Meanwhile, today it is the only exam to measure the Cerebrospinal Fluid pressure.

- **Diffusion tensor magnetic resonance imaging:** “Using diffusion tensor tractography, we quantified optic radiation structural changes in seven migraine patients with aura... . Migraine with aura patients had reduced average fractional anisotropy of both optic radiations compared with controls and reduced average fractional anisotropy of the right optic radiation compared with Migraine without aura patients. They also showed higher right optic radiation mean diffusivity.” (Rocca M A, and others).

- **“Digiti quinti sign,** described originally as a clinical indication of subtle motor deficit, consists of a relatively greater abduction of the fifth finger on the affected side when both arms are extended forwards. This sign was previously observed interictally in three consecutive hemiplegic migraine patients. The angle between the fourth and fifth fingers was measured interictally in 10 hemiplegic migraine patients, 44 migraine with aura and migraine without aura patients, and 45 healthy controls. The angle between the fourth and fifth fingers was significantly wider at the symptomatic side in hemiplegic migraine... The differences between the symptomatic and non-symptomatic (for hemiplegic migraine) or between the right and left sides (absolute values for non-hemiplegic migraine and controls) were, respectively, 10.10° ± 9.58°, 4.15° ± 3.95° and 5.37° ± 4.74°. The optimal cutoff point for angle between the fourth and fifth fingers was 15° at the symptomatic side (sensitivity and specificity of 80.0% and 72.2%, respectively), 10.5° at the non-symptomatic side (sensitivity and specificity of 60.0% and 52.3%), and 3° for the difference between sides (sensitivity and specificity of 90.0% and 79.5%).” (Vincent M B, and others).

- **Dopamine levels:** “We found increased dopamine levels in the headache free period in female migraineurs but not in male patients. Increased dopamine is associated with a 3.30-fold higher risk for migraine in women.” (Gruber H J, and others).

- **Electroencephalogram (EEG):** “Electroencephalogram recordings from 40 migraineurs... Frontocentral delta power increased, whereas frontocentral theta and alpha power tended to increase within 36 h before the next attack compared with the interictal period. Occipitoparietal (alpha and theta) and temporal (alpha) power were more asymmetric before the attack compared with the interictal baseline. Ictal posterior alpha power increased slightly. Postictal power and power asymmetry were not significantly different from interictal baseline. Electroencephalogram activity seems to change shortly before the attack. This suggests that migraineurs are most susceptible to attack when anterior quantitative electroencephalogram delta power and posterior alpha and theta asymmetry values are high.” (Bjork M, and Sand T).

- **Electronystagmography:** “20 children with "migraine equivalent syndrome" benign paroxysmal
vertigo of childhood... underwent rotatory vestibular stimulation by stop test, optokinetic stimulation, and simultaneous postrotatory vestibular and optokinetic stimulations. All the children presented a visual-vestibular-ocular-reflex nystagmus homodirectional to vestibular-ocular reflex. In the control group, all the subjects presented a visual-vestibular-ocular-reflex nystagmus homodirectional to optokinetic nystagmus. This... indicates the absence of the optokinetic system prevalence due to a central nervous system (CNS) modification and highlights a CNS disease.” (Mora R, and others).

- **Low resolution electromagnetic tomography:** “Spectral findings: there was a tendency for more alpha power in the migraine that in the control group in all but two (F4, C3) derivations. Statistically significant (P < 0.01, Bonferroni-corrected) spectral difference was only found in the right occipital region. The main low resolution electromagnetic tomography-finding was that voxels with P < 0.01 differences were crowded in anatomically contiguous cortical areas. Increased alpha activity was found in a cortical area including part of the precuneus, and the posterior part of the middle temporal gyrus in the right hemisphere. Decreased alpha activity was found bilaterally in medial parts of the frontal cortex including the anterior cingulate and the superior and medial frontal gyri. Low resolution electromagnetic tomography revealed the anatomical distribution of the cortical sources (generators) of the EEG abnormalities in migraine.” (Clemens B, and others).

- **Magnetic resonance imaging:** “With 1.5-T MRI,... We compared T2 values between migraineurs (n = 138) and controls...In the younger migraineurs compared with controls, T2 values were lower in the putamen, globus pallidus and red nucleus. Those with longer migraine history had lower T2 values in the putamen, caudate and red nucleus. Repeated migraine attacks are associated with increased iron concentration/accumulation in multiple deep nuclei.” (Kruit M C, and others).

- **Near-infrared spectroscopy measurement** of the cerebral variations of the oxygenated haemoglobin and reduced haemoglobin during breath-holding: “Eighty-eight migraine with aura patients (mean age 37.4+/−10.7 years, range 16-62 years)...Near-infrared spectroscopy correctly detected 36 subjects out of 40 without patent foramen ovale, and 38 subjects out of 48 having patent foramen ovale: sensitivity was 79%; specificity was 90%. Migraine with aura patients with patent foramen ovale showed a delayed increase in the oxygenated haemoglobin concentration and a reduced oxygenation.” (Liboni W, and others).

- **Nitrate level:** “We found significant increased nitrate and decreased nitrite levels in migraineurs in the headache-free period... Migraine patients suffer under sustained increased nitrosative stress in the headache-free period, which is associated with a 3.6-fold higher risk for migraine.” (Gruber H J, and others).

- **Ophthalmo-dynamometry:** It analyses the ophthalmo-dynamometric force necessary to cause the Central Retinal Vein pulsation in the eye. It is analyzed above at the chapter Pathophysiology.

- **Pressure pain thresholds over the temporalis muscle:** “Patients with strictly unilateral migraine... showed lower pressure pain thresholds at all nine points than healthy controls. Pressure pain thresholds levels were decreased bilaterally from the posterior to the anterior column of the temporalis muscle, with the most sensitive in the anterior part of the muscle. For controls, pressure pain thresholds did not follow such anatomical distribution, the most sensitive point being the centre of the mid-muscle belly.” (Fernández-de-las-Peñas C, and others).

- **Single-fibre electromyography:** “We treated therefore in an open pilot study five non-hemiplegic migraineurs showing mild single-fibre electromyography abnormalities with acetazolamide for several weeks. This was followed by a normalization of single-fibre electromyography recordings in all patients and by clinical improvement in four.” (Ambrosini, A, and others).
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“Subclinical neuromuscular transmission abnormality (detected by single-fibre electromyography) is slightly present in only sporadic hemiplegic migraine and basilar-type migraine patients”. (Baslo M, and others).

- **Thermal hypersensitivity:** “In the preattack phase (24 h before their next attack), heat pain detection threshold was lower... Neck and hand cold pain detection threshold were higher in the preattack phase. Preadtack forehead changes were more apparent on the headache side of the subsequent attack. Subclinical preattack thermal pain hypersensitivity seems to be a feature of the process that leads to a migraine attack.” (Sand T, and others).

- **Transcranial doppler with the Valsalva maneuver:** It is the gold standard exam to detect the cardiac patent foramen ovale, better than the Transesophageal echocardiography.

- **Transcranial doppler with the visually evoked flow response** curve analysis, “in 70 patients with Migraine with aura and 40 controls with migraine without aura... interictally recorded... The visually evoked flow response% showed a significantly higher mean difference of 14.7 +/- 12% in Migraine with aura patients vs. 5.8 +/- 4.4% in controls.” (Wolf M E, and others).

- **Transcranial magnetic stimulation:** “In ten children suffering from migraine without aura... Migraineurs had lower Phosphene thresholds..., indicating increased occipital excitability. This increase in occipital excitability was attenuated 1-2 days before a migraine attack.... The increase in phosphene thresholds before the next attack was associated with a stronger transcranial magnetic stimulation-induced suppression of visual perception and a prolongation of the motion aftereffect. These findings show that pediatric migraine without aura is associated with a systematic shift in occipital excitability preceding the migraine attack.” (Siniatchkin M, and others).

- **Trigemino-cervical reflex:** “Short-latency responses can be recorded in sternocleidomastoid muscles after stimulation of the trigeminal nerve (trigemino-cervical reflex). The trigemino-cervical reflex was investigated in 15 healthy subjects, in 15 patients having migraine with aura, in 15 patients with migraine without aura, and in 10 patients with cluster headache. Significant abnormalities were observed in a great number of patients with both types of migraine and cluster headache during the headache attacks, but only in migraine patients during the interictal period. The alterations are bilateral in migraine, unilateral in cluster headache.” (Nardone R, and others).

- **Ultrasound measure of the Dura mater sheath diameter of the Optic Nerve in the orbit:** “An indirect estimate of increased cerebrospinal fluid pressure can be obtained by the ultrasonographic determination of optic nerve sheaths diameters. Patients with Idiopathic intracranial hypertension showed a significant increase in mean optic nerve diameters...” (Salgarello T, and others).

  “Optic nerve sheath diameter > 5 mm performed well to detect Intracranial pressure > 20 cm H(2)O with a sensitivity of 88% (95% CI = 47% to 99%) and specificity of 93% (95% CI = 78% to 99%).”(Kimberly H H, and others).

- **Ultrasound measure of the Flow-mediated dilatation:** “Measuring the percentage increase of the brachial artery diameter induced by hyperaemia reactive to sustained cuff inflation around the arm above systolic pressure... Normalized Flow-mediated dilatation values were higher in patients with Migraineurs with aura (28.5 10-2%.s) than in controls (9.0 10-2%.s) and patients with Migraineurs without aura (13.7 10-2%.s). Flow-mediated dilatation was over the median value (19%) in 23.1% of controls, in 45.5% of the Migraineurs without aura patients, and in 90% of the Migraineurs with aura patients. Migraineurs with aura present an excessive arterial response to hyperaemia, likely as an effect of an increased sensitivity to endothelium-derived nitric oxide.” (Vernieri F, and others).

- **Vascular smooth muscle cell dysfunction:** “Patients with migraine are characterized by a distinct
vascular smooth muscle cell dysfunction, revealed by impaired cyclic guanosine monophosphate and hemodynamic response to nitric oxide.” (Napoli R, and others).

- **Vestibular-evoked myogenic potentials:** “Our data on patients with vestibular migraine indicate that the Vestibular-evoked myogenic potentials amplitudes are significantly and bilaterally reduced compared to those of controls. This electrophysiological finding suggests that both peripheral vestibular structures, such as the saccule, but also central vestibular structures are affected. Thus, beside the brainstem, structures in the inner ear also seem to contribute to vertigo in vestibular migraine.” (Baier B, and others).

- **Vestibulo-collic reflex:** “The click-evoked vestibulo-collic reflex allows the assessment of otolith function and an oligosynaptic pathway linking receptors in the saccular macula (in the inner ear) to motoneurons of neck muscles. Amplitudes, raw and corrected for baseline electromyography, were significantly smaller in migraine patients. Whereas in healthy volunteers the vestibulo-collic reflex habituated during stimulus repetition (-4.96% +/- 14.3), potentiation was found in migraineurs (4.34% +/- 15.3). The explanation... in migraine...(is) an abnormal processing of repeated stimuli in the reflex circuit.” (Allena M, and others).

- **Visual evoked potential:** “We examined 31 female and 10 male patients with a migraine headache: The N75 and P100 latencies were found to be significantly longer in the study group than the control group while the amplitudes in the study group were lower. N145 latency was found to be longer in patients with longer duration of disease. P100 latency was found to be significantly longer in patients with aura than the patients without aura. N75 latency, recorded by left monocular stimulation, was elongated and the amplitude was diminished with left hemicranial headache. Measurement of visual evoked potential latency and amplitude is a valuable and reliable test for the diagnosis of migraine. Our results reflect a persisting dysfunction of precortical visual processing which might be relevant in the pathogenesis of migraine.” (Boylu E, and others).

- **Visual field, peripherals** and many other ophthalmological exams that show the glaucomatous lesion in the Optic Nerve and retinal fibers. They are useful to confirm the diagnosis of glaucoma and analyze its progression. They have no use to diagnose migraines nor to prevent the glaucoma.

**XIV-3) Differential Diagnose:** Frequently the patients of Migraine and interchangeable signs and symptoms (Migraine variants) search for medical help like neurological, psychiatric, orthopedic, homeopathic, acupuncture, orthodontic, otolaryngological, and even ophthalmological, being submitted to multiple exams, useless medicaments and surgeries, but the Migraine persists. The Migraines and their interchangeable signs and symptoms usually are diagnosed as Cluster or Tension-Type Migraine, Premenstrual Tension, Sinusitis, Backaches, Psychological troubles, Allergic Rhinitis, Allergic Cough, Otitis, Trigeminal Neuralgias, Facial aches, Temporal-Mandible joint disease, Lachrymal canal obstruction, Blepharitis, Allergic Conjunctivitis, Orthopedic and Rheumatic sickness, Fibromyalgia, etc.

These patients are medicated years along with analgesics and anti-Migraine medicaments (some with caffeine), and other clinical and surgical therapies, with iatrogenic consequences; but without reduction of their intraocular, Cerebrospinal or Inner ears fluids pressures, the Migraines and the other interchangeable signs or symptoms recur every day or every month, with no cure, only reducing with age or definitive damage. With the reduction of the fluids hypertension these patients cure.

We verified that almost all Fluids Hypertension Syndromes sicknesses, signs and symptoms present few or no inflammation. Few of them present ocular hyperemia (erythema). All the edemas are cold. There are no purulent secretions. There is no fever.
“Sometimes the parents and even the medical doctors ignore or simply disrespect the symptoms that accompany the headache crisis. This predispose, as shown in this work, to diagnostic errors that culminate in unspecific therapies, relying on the symptoms and not specifically to the etiology, inducing to the indiscriminate and chronic consumption of analgesics, which besides of incorrect, expose to the harmful risks of their collateral effects.” (Translated from Portuguese). (Fragoso Y D, and others).

XIV-4) The diagnose of advanced Benign Intracranial Hypertension (Pseudotumor cerebri), with edema of both Optic Nerves bigger than 1 dioptre, and with headaches that do not reduce with our treatment, which is very rare, and the Inner ear damage, demands radiological, magnetic resonance image, or other exams to differentiate them from real tumors and other sicknesses. The intracranial tumors occurred in less than once out of 1,000 of our patients with Optic Nerve’s disk borders edemas caused by the Cerebrospinal Fluid Hypertension.

XIV-5) It is useless the differentiation from the Migraine of intraocular pressure rise and the Normal (Peak) Tension Glaucoma, because both illnesses interlace with each other and the treatment to both is the same. They are the same sickness at two phases, years apart one from the other.

We do not wait the Glaucoma establishes its damage in the patient’s eyes to medicate him, because the damage is irreversible and the patient is suffering now. We medicate now his sufferings, with or without glaucoma. Consequently, the ophthalmological exams to determine precisely whether the patient already has, or still has not Glaucoma, are irrelevant. Whether the doctor uses these exams to determine if the patient must or must not be medicated, he is doing a medical error, delaying the correct treatment and prejudicing the patient. This bad medicine is very common now-a-days.

The same impossibility to differentiate hedges occurs between the Cerebrospinal Fluid Hypertension Syndrome and the Pseudotumor Cerebri (Benign Intracranial Hypertension). They are the same sickness with different intensities. The differentiation between both diagnoses is useless.

XIV-6) Migraines and headaches secondary and symptomatic of other diseases - Complicated Migraine or migrainous infarction.

Primary migraines are those above described, so denominated because they are the first symptoms, but they indeed are secondary to the Fluids Hypertension Syndromes and their etiologies. All migraines are secondary to something that is wrong in the individual health. Otherwise, the patient would not feel any migraine. There are no primary migraines or headaches without etiologies or risk factors.

Secondary headaches and migraines are symptomatic of many diseases with other etiologies, which have nothing with the Fluids Hypertension Syndromes, but they rarely occurred between our patients.

The sicknesses that can cause secondary migraines are:

- Arterial hypertension.
- Cerebral infarction. (Ischemic stroke) (Hemiplegic Migraine). It can be consequent at least from three distinct conditions:
  a – A peak of Arterial Hypertension.
  b - A peak of Cerebrospinal Fluid Hypertension associated with an Arterial Hypotension.
  c – An excessive effect of caffeine, which is a vasoconstrictor.
- Chronic hydrocephalus.
- Infectious rhinitis, sinusitis, otitis, meningitis; other facial, intracranial and extracranial infections.
- Intoxication other than caffeine.
- Neuritis and other neural sicknesses.
- Psychiatric disorders, with and without caffeine.
- Sub-arachnoid or intracranial aneurysm hemorrhage.
- Tumor or other intracranial expansive diseases.
- Vertebro-basilar and other brain artery diseases.
• Other familial and hereditary sicknesses not related with the Fluids Hypertension Syndromes. Which are they? Are they related with caffeine, wine, beer, excessive water drank, dural sinus thrombosis or patent foramen ovale?

We did not made statistics of these secondary headaches symptomatic of other diseases, because they are very rare at our ophthalmological office.

XIV-7) Migraine and pregnancy:

We suggest this treatment to the pregnant with migraines:
- Withdraw any caffeine, chocolate, wine, and beer from the pregnant diet.
- Reduce the excessive water drinks. The pregnant woman must not be over-hydrated.
- When there is a cerebrospinal fluid hypertension syndrome, take Acetazolamide 125 mg (half pill) orally each day, at lunch.

This will cure the migraines, besides curing some edema anywhere in the body. This can cause one week of caffeine withdrawal headaches.

After the one week of headaches, if they persist, search for glaucoma or any structural disorder in the head.

XIV-8) Patients' misconceptions:

A- There are patients with visible damage in their Optic Nerves’ disks caused by the Ocular hypetension, which means the beginning of the glaucoma, and without any ache or other symptom. We found very difficult to convince these patients to stop their pleasant drinks before their damage aggravate or cause blindness.

B- There are patients who came to the medical examination determined “to have an eye-glasses prescription that will solve all his problems”. Whether they have some Fluid Hypertension Syndrome, there are three possibilities, all bad ones:
  a- If the physician prescribes only the glasses, the patient will continue suffering and consider that “the physician is incompetent and the eyeglasses were wrongly prescribed”.
  b- If besides the glasses prescription, the physician carefully mentions the other disease and the necessity of its treatment, the patient gives little credibility to him and to the glasses prescription.
  c- If the physician refuses to prescribe the glasses, and first explains and prescribes the Fluid Hypertension therapy, the patient may feel as badly attended.

C- There are patients convinced that “as Caffeine is pertaining to the nature, it can not be harmful”.

We explain that the snake's poison is natural and can kill. Arsenic and many other poisons are also natural. So it is the Caffeine: it is a vegetable natural poison.

The water is also natural, but its excessive drinks are harmful.

XIV-9) When the patient shows with the entire hand the head’s place that aches, the physician must ask him to show the aching place with only one finger. This enables to differentiate between the central frontal (ethmoid) area of the Cerebrospinal Fluid Hypertension, from the wide frontal area of the Ocular hypertension, and from the temporal and head-top (vertex) areas of the Cerebrospinal or Inner Ears fluids hypertension. The children younger than 10-year-old usually cannot specify the head’s place that aches. Meanwhile, the aching point alone is not diagnostic.

XIV-10) Even the Ophthalmologists Doctors have difficulties on diagnosing the Ocular, Cerebrospinal and Inner ear Fluids Hypertension Syndromes. Usually the recurrent Migraine or variant is the only symptom during the firsts years, it happens only at awaking or after excessive drinks (which the patient does not mention spontaneously), and the Optic Nerves’ disks have neither evident glaucomatous cups nor borders’ edema. Whether on the ophthalmological examination the patient’s intraocular pressure is lesser than 22 mmHg, the Ophthalmologist usually consider this pressure as “normal” and do not diagnose nor medicate.
- Status Migranosus and Normal Tension Glaucoma caused by caffeine and excessive water: One typical patient: A 25-year-old mother, 63 Kilograms (138 pounds), mulatta, 1.70 meters (5 feet and 7 inches) of beauty and health, sales representative of a coffee manufacturer. She used to drink daily 10 glasses (each one with 500 milliliter) of water in order to “weight control”, some free coffee which she sales, and 1,000 milliliter of natural Guaraná. She began to feel Migraines all over her head, spreading to the nape area, so intense that she could not walk. The last Migraine endured for 3 weeks.

Another medical doctor ophthalmologist found “all normal” with her eyes, despite both her Optic Nerves presented diameter cups of 0.8 with deepness of 4 dioptre, and Lamina Cribsa’s pores well visible, without any borders edema (0.8/4/3/0). This configures the advanced glaucoma. The intraocular pressures were 16 and 20 mmHg right and left eyes. She cured all migraines and stopped the evolution to Normal (Peak) Tension Glaucoma, after finishing the excessive drinks of water, coffee and guaraná, and using Maleate Timolol 0.5% eye drops twice a day.

XIV-11) Relations between any two signs, symptoms and sicknesses: As all the more than 400 signs, symptoms and sicknesses listed at the Summary are caused by the Fluids Hypertension Syndromes and the caffeine toxicity, the researcher who looks for the relation between any two of those signs, symptoms and sicknesses surely will find them positively correlated. There are more than 100,000 possible correlations about any two of them. Even you can establish a similar correlation and give your name to it. It is easy, free and useless.

XIV-12) The medical doctors who do not use the direct ophthalmoscope to see the fine pathological details of the Optic Nerve’s disk; those who do not know these details and consequently do not see them, as I was; those who do not measure the intraocular pressure: all these physicians can not diagnose clearly these aches and sicknesses, and they denominate them as “migraines”, “allergic”, “idiopathic”, “neuralgic”, “nervous”, etc. Their treatments are only symptomatic and prone to failure.

When the Neurologist does a Lumbar puncture and obtains a high cerebrospinal fluid open pressure, he diagnoses the patient as having an “idiopathic intracranial hypertension”. Idiopathic because he ignores the etiology. It is easy to ask to the patient and discover the etiology, provided you know what you are searching for.

Even without the direct ophthalmoscopy or tonometry, any physician can perform the patient’s careful anamnesis, prescribe the therapy which is a diet and causes no harm, and he will observe the consequent disappearance of all the patient’s signs and symptoms in one month: the patient cures! This will confirm the correctness of diagnose and therapy, without any exam, medicament or surgery.

XIV-13) When we ask to the patients:
- “How much water or other liquids do you drink each day?”
  Typically, most patients answer:
  - “Oh! Less than two liters!”

  After this answer, when we count with our fingers one-by-one the glasses that the patient drinks from awakening until the next daybreak, and multiply by the glass size he uses, we discover the many more liters he drinks daily, then he get astonished:
  - “Oh! Do I indeed drink so much?” And complement with:
    - “I have heard that water is good to health, isn’t it? So, I drink plenty of it.” And they really drink a lot of water.

XIV-14) Most definitive damage associated with migraines, as neurological, ophthalmological or otological, only happen after many years of Fluids Hypertension Syndromes and respective Migraines and Headaches. After their occurrence, the patient is older and frequently the Migraines and all the other signs and symptoms had lessened or gone. The physician who now examines the old patient with a neurological definitive damage has nothing to help him to diagnose the etiology that occurred years ago, and now he diagnoses the actual sickness as “idiopathic”.

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XIV-15) Children with Migraines: The children with the Fluids Hypertension Syndromes only present signs and symptoms of headaches, migraines, rhinitis, sinusitis, otitis, “allergic bronchitis”, vomits, difficulties on school reading, etc. Their medical exams do not present any damage: they are normal. Their Optic Nerves’ disks are physiologic, because there was no time to damage them. The children with migraines can be obese or slim. There is no gender susceptibility. The level of the excessive drinks have personal predisposition, but there is some relation with the body’s weight.

There is no examination to corroborate the diagnosis of the caffeine intoxication or the excessive water intolerance: only their banishment from the children drinks and verifying their cure. Most children are not users of beer or wine, but there are exceptions. We had breast-feeding babies drinking alcoholic drinks in their nursing-bottles, given by their mothers, to stay quiet.

XIV-16) Why doctors do not incriminate the caffeine?

We and other (Whalen, R) observed that some researchers do not find the pathological effect of caffeine, even when they search for it. This occurs at least by six motives:

1- Selecting only the healthy people for the research. Despite most people already are drinking caffeine and some are suffering or had suffered its consequences, those persons that already present some caffeine sickness are excluded from the beginning of the research. Therefore, only the caffeine resistant persons are included in the study. In this selected caffeine resistant persons the researchers will not find anything against the caffeine.

Do you want to find the most sensible people to the caffeine intoxication? Search between the poor and sick people. The caffeine’s sicknesses turn the patient disqualified to many professions and jobs, which results in little or null income for his entire life, and his family becomes chronically poor. The caffeine intolerance and sicknesses cause poverty to the patient and his family.

2- Wrong supposition that all people react similarly to caffeine. There are many personal differences on the person's reactions to the caffeine. Some people are more resistant and others are more sensible to the caffeine’s effects. The caffeine resistant people can drink more caffeine and stay healthy. The more sensible persons become sick with smaller doses. At the very cold climates, the body’s caloric production is imperative, and the caffeine becomes helpful to stay alive. At these cold places, the people more sensible to the caffeine probably was eliminated by the caffeine's selection many years ago. A research about caffeine in those selected persons who are high caffeine drinkers will only find good things about the caffeine's effects.

3- Impersonal questionnaires. No person opens his soul and tells his beverages details on an impersonal questionnaire, which nobody knows who will read it and how it can prejudice him. Even in the medical consultation, the patients are reluctant in talking to the physician about their drinking habits of water, coffee, beer, wine, chocolate, etc. You need to carefully ask them.

When the researcher does not ask the patients’ specific use of nicotine, beer, wine, caffeine, or excessive water, he will not discover these etiologies. Some researches join caffeinated with no caffeinated beverages, and call them as “sodas”. Other researchers join beer, wine, and alcoholic distilled drinks, and denominate all of them as “alcohol”.

4- Caffeine alone and in short time seldom is an etiology to any sickness. The caffeine drank by healthy people without any other etiology, in few hours shows only good effects. Even when ingested by the sick people, its bad effects usually manifest only after hours, or when sleeping, or after days of its use. When the caffeine is in addition to any other etiology or predisposition, or with months or years of its daily continuous use, it is a strong worsening factor for any sickness that the patient has predisposition to suffer. Caffeine is the main etiology of around the 490 signs, symptoms, and sicknesses above listed in the Summary.

5- At the end of the research, caffeine becomes invisible. When the caffeine becomes statistically evident as an etiology or as a risk factor, some researchers overlook it, and do not mention caffeine in their conclusions. They see everything, except caffeine. This is a common conclusion: “We did not find convincing evidence of an association between caffeine intake and the...”. Why caffeine is invisible to some medical researchers? Are the doctors dependent to caffeine refusing to see it? Their vices turn them blind?

We conclude that Doctors, when addicted to caffeine, chocolate, wine, beer, or other toxin, do
not accept the incrimination of their vices, and deny every evidences of it. Doctors are people, just like all other people, and they do not believe that they are addicted. Consequently, the patient with the addiction similar to the doctor's addiction is never diagnosed, and the research will conclude nothing.

6- Disqualification of all evidences. After many researches showing strong evidences of the pathological effect of caffeine causing some sickness, anyone doctor disqualify all researches, and this disqualification becomes “the truth” and is spread all over the world. It is easy; it does not need much effort: it needs only a few very well chosen words, a famous doctor that is available to do this, and some caffeine industry or institution to pay for its diffusion on TV and medical media.

Most of these above difficulties can be avoided, by:

To research the sick people, because they are suffering now the caffeine effects.

The interviewee must feel that the interviewer will help him somehow. In order to elicit the individual daily beverages details, it is essential a personal interview, with good rapport between the interviewer and each interviewee.

The interviewer must carefully ask and hear from these suffering patients the detailed information about their daily beverages. It is useless a global question: “How many glasses do you drink each day?” It is necessary to detail, and carefully hear each answer:
- “How many glasses do you drink:
  - “At awakening?”
  - “After awakening, until the lunch?”
  - “At the lunch?”
  - “Afternoon, until the dinner?”
  - “At the dinner?”
  - “After the dinner?”
  - “Before sleeping?”
  - “When you wake during the night?”
  - “What size is your drinking glass”?
- Then you add up all glasses and will know the drinks daily volume.

XIV-17) When the patient complains false symptoms: There are patients, mainly doctors and their secretaries, who came to consultation and lie false aches and other symptoms to me. I suppose they do this in order to test my ability to discover their falseness. Even when I perceive this falseness, I medicate the sickness that the patient presents to me, as true as false. If the patient is complaining false symptoms, this is his problem, not mine. He receives the same prescription in any circumstance.

XIV-18) Why the public health authorities do not restrict the indiscriminate use of caffeine, or at least require disclosure on the label of the caffeine content in each food and beverage?
- Are they blind and deaf?
  – Are the caffeine industries more important than the health of the authorities’ sons, daughters, parents, their all relatives and the entire nation intoxicating with caffeine?
  – Are they thinking that the caffeine is intoxicating only other families, and not their own?
  – Are the public health authorities indeed working for the public health benefit?

“As almost five years ago the American Medical Association called on the Food and Drug Administration (FDA) to require that the amount of caffeine in the product be declared on the label. Yet the FDA has taken no action on a petition that we filed in July 1997 asking that the FDA require disclosure of the caffeine content of food and beverages.

Thus, pregnant women, and other people, still cannot know how much caffeine is in a serving of a particular food or beverage, such as coffee, tea, colas and other soft drinks, caffeinated water, ice cream, frozen yogurt, yogurt, chocolate milk, and chocolate candies.” (Jacobson M F. Center for Science in the Public Interest).
XIV – 18) **Caffeine merchandising is shameless:** We observed daily the aggressive merchandising of coffee, chocolate, mate, green tea, cola, guaraná, etc. The manufacturers want to sell and profit, but there should be some reasonable limits: There are no limits to the caffeine's merchandising!

The advertising is for any age, for all people. The advertising is shameless and unlimited. The advertising shows until medical doctors beginning “scientific research” to study the consumption of caffeinated beverages or chocolate for “heart improvement”, “better health”, and other impossible benefits. The advertising on TV shows the beginning of the research, the smiling medical doctor and the famous University where the research shall occur. The advertising is spread and the people will buy this product, because they misunderstand that “the medical doctors of this university recommend this chocolate!” After accomplished this selling objective, the true result of this research does not matter. Nobody will know anything about it, whichever it may be. The medical doctor thought that he was paid to make a research, but he really was paid for his name and image be used to sell that caffeinated product.

The Brazilian Agricultural State Department, at the year 2.009, spent 30 minutes on the most important TV net, Sunday at 10 PM (“Globo Reporter”), an advertising to spread that coffee is good to health, and that it improves the children learning at school. It was told that our government was preparing to include the coffee in the children school-meals. The true is the opposite, but this doesn't matter. Which really matters is the coffee selling increase. How many children were intoxicated daily by caffeine, after their parents saw this coffee advertising? And this coffee advertisement is repeated over the country every year.

**We conclude that nowadays:**
- The beverages industries and government profits are based on the peoples vices and sufferings.
- The populations are stimulated to drink these toxins by the beverages industries and by their governments. The media coverage is paid to spread to the populations good things about these beverages and to stimulate their use.
- The medical industries profit with the therapies of the people's sicknesses caused by these vices. The sickness prevention is not profitable. So, the medical industries prefer to medicate them than to prevent or cure them. The medical media only advertises to the physicians the profitable medicine. So, the physicians are stimulated only to medicate than to prevent or to cure these sicknesses and vices.
- As these vices are spread world-wide, there are increasing people sick from these intoxicants, and there are increasing profits to the beverages, governments and medical industries.

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XV – e- Caffeine causes chronic inflammations and worsens surgical results.

XV - a- Caffeine blocks the Adenosine receptors.
The nucleus of the caffeine and that of the adenosine are the same, a purine. “Adenosine is an endogenous purine nucleoside that modulates many physiological processes. Cellular signaling by adenosine occurs through four known adenosine receptor subtypes (A1, A2A, A2B, and A3).” (Wikipedia).

As the caffeine disturbs the adenosine physiology everywhere in the body, the caffeine chronic everyday use turns it an etiology to hundreds of sicknesses.

XV - b- Caffeine inhibits the synthesis of connective tissue. This is good to lessen the liver cirrhosis, but it can be the etiology of many sicknesses caused by the connective tissue frailty, as high myopia and Achilles' heel tendon rupture. “Caffeine reduces collagen synthesis in human cultured skin fibroblasts. “ (Donejko M and others).

XV – c - Caffeine constricts the arteries and kills the under-nourished cells.
As caffeine causes arterial vasoconstriction, it worsens the blood and oxygen nutrition everywhere in the body. At any site that already there is a relative arterial restriction and consequent relative ischemia, the caffeine increases this ischemia and progressively kills the cells.
I suppose that this caffeine killing cells is the etiology of:
- Killing the arterial cells, it causes aneurisms, arterial stiffness and hypertension.
- Killing the bones cells, it causes osteoporosis and fractures in the elders. (And jaw necrosis?)
- Killing the cardiac cells, it causes cardiac infarcts.
  - Killing the cartilage cells, it causes joints degeneration in the athletes and in the elders.
  - Killing the eye's corneal cells of the fetus in the uterus, it causes the keratoconus in the teenagers.
  - Killing the eye's sclera cells, of the fetus in the uterus and of the babies, it causes the progressive myopia in the school agers.
  - Killing the eye's Schlemm trabecular meshwork cells, it causes the chronic high-tension glaucoma.
  - Killing the eye's retinal ganglionic cells, it causes retinal degenerations.
  - Killing the inner ears' neural cells, it causes vertigo and deafness in the elders.
  - Killing the tendineous cells, it causes tendonitis and the Achilles' heel tendon rupture in the athletes and in the elders.
  - Killing the thyroid cells, it causes the thyroid's dysfunctions and cancer.
  - Killing the brain's gray matter cells (brain's neurons), it causes what?

Our body and the nowadays medicine have no way to rebirth these cells, killed by the caffeine. The dead cells have no reposition during your life. But do not worry about this: you shall have new brand cells again when you reincarnate. Okay? If you do not reincarnate, do not blame the caffeine.

XV - d- Caffeine causes chromosomes disturbs in the cells division (mitosis).
“Aneuploidy has been implicated as an important step leading to various neoplasias... Caffeine induces aneuploidy through asymmetrical cell division... Most caffeine-treated mitotic cells showed misalignment of chromosomes at the metaphase plates, and were arrested at prometaphase. Mitotic-arrest deficient 2 depletion rescued the caffeine-induced delay of mitotic exit, indicating that caffeine-induced prolongation of mitosis was caused by activation of a mitotic-arrest deficient 2-dependent spindle checkpoint... Cell division in the presence of caffeine was not symmetrical and resulted in
aneuploid cell production.” (Katsuki Y, and others).
This chromosomes disturbs is one main etiology of cancer. But you are cancer-proof, aren't you?

XV – e- Caffeine causes chronic inflammations and worsens surgical results. In the patient sensible to the caffeine, or because he was borne this way, or because his advanced age, the caffeine can cause small chronic inflammation at any body’s place. This caffeine effect causes and chronifies many sicknesses, which can improve or cure avoid the caffeine.

In the surgical patient, the caffeine chronic inflammatory effect can cause the delay of the post-surgical patient recovery. In some surgical cases, as in cataract and glaucoma, where chronic small post-surgical inflammation can be very bad, caffeine can cause the failure of the surgical result. Caffeine can turn a technically good surgery into a catastrophic result. I have seen this but I do not have any statistic of it.

XVI – Sicknesses and disturbs caused or worsened by the Caffeine Intolerance, unrelated with the Fluids Hypertension Syndromes.

We and many other physicians had patients who presented other sicknesses caused or worsened by the chronic Caffeine intoxication. The list of the sicknesses caused or worsened by the caffeine is at the Summary. The relations of these sicknesses with the caffeine are detailed below, with the mention of their respective authors who studied them.

XVI - 1) Aches from Repetitive Motion Injuries:
We had workers that after many years using computer keyboard and daily coffee and caffeinated soft drinks, presented typical Repetitive Motion Injuries aches on their shoulders, elbows and fists.
They also presented backaches (back pain). Those patients who stopped their caffeine use, became better from their aches after more than one month. As most of them were also medicating with other physicians, we could not define the main importance of the caffeine in their aches.

XVI - 2) Achilles' heel tendon rupture? As the caffeine weakens the bones, the cartilages and the eye's sclera, it is possible that the caffeine also weakens the Achilles' heel tendon and promotes its rupture. We did not find any medical research about this and can not prove this.

XVI - 3) Adiponectin increase: “Women with and without diabetes who drank >/= 4 cups of coffee per day had significantly higher adiponectin concentrations than those who didn't drink coffee regularly.” (Williams C J, and others).

XVI - 4) Alcohol dependence related with the caffeine consumption: “Energy drinks are highly caffeinated beverages... from 1,097 fourth-year college students sampled from 1 large public university... 51.3%(wt) of students were classified as "low-frequency" energy drink users (1 to 51 days in the past year) and 10.1%(wt) as "high-frequency" users (≥52 days)... high-frequency users drank alcohol more frequently (141.6 vs. 103.1 days) and in higher quantities (6.15 vs. 4.64 drinks/typical drinking day). High-frequency users were at significantly greater risk for alcohol dependence relative to both nonusers (OR = 2.40) and low-frequency users (OR = 1.86). Weekly or daily energy drink consumption is strongly associated with alcohol dependence.” (Arria A M, and others).

XVI - 5) Alexithymia: It is caused or worsened by the caffeine, together with other causes.

XVI - 6) Allergies: We had many patients with variegated allergies, besides some other disease they presented. All of them improved their allergic reactions after stopping their caffeine use. It is very difficult to prove their cure, because the cured patient does not come back for consultation or examination anymore. We only noticed their improvement after years, when some of these patients came for another eyeglass prescription. Their allergies simply disappear, without any medicament. The patients even forget that they had some allergy years before.
These allergies can be real sinusitis, with all radiographic exams showing the sinus obstruction. The patient suffers years of sinusitis, with many treatments and exams but without cure. The only cure occurs when the patient stops all the caffeine use.

**XVI - 7) Allodynia without the Cerebrospinal Fluid Hypertension.** The toxic effect of the caffeine in any nerve can cause its solitary allodynia, transforming the tactile and other physiologic sensations of this nerve into aches. This explains why caffeine is an aches (pain) promoter and intensifier.

**XVI - 8) Alopecia:** We had patients between 15 and 50 year-old, mainly women, with crisis of Alopecia without any sickness to explain it. The dermatologists usually diagnose this alopecia as consequent to “stress”. These patients where plenty of caffeine, and became better avoiding it. We did not make statistics on them.

**XVI - 9) Alpha power brain reduction** in eyes-closed resting electroencephalogram: “Caffeine was associated with increased skin conductance level, increased respiratory rate and a global reduction in alpha power.” (Barry R J, and others).

**XVI - 10) Anaemia (Anemia). Erythropoietin level reduction:** “Theophylline administration has been shown to attenuate erythropoietin production in adults. Fifty preterm infants (mean gestational age 28 weeks) who had clinically significant apnoea were randomized to receive theophylline (4 mg/kg then 2 mg/kg twice daily) or caffeine (10 mg/kg then 2.5 mg/kg once daily)... There were similar falls in haematocrit and haemoglobin in the two groups during the study period compared to pre-treatment values. The erythropoietin levels in the two groups at week 7 did not differ significantly.” (Fang S, and others).

**XVI - 11) Anger potentiation:** “In 48 healthy males... Significantly greater increases in forearm blood flow and heart rate during mental arithmetic on the caffeine day suggested a potentiation of sympathetic, beta-adrenergic activity. Questionnaires administered during baseline periods to assess psychological responses to stress and caffeine revealed a potentiation of anxiety and anger responses to stress on the caffeine day.” (France C, and Ditto B).

**XVI - 12) Angiitis of the Central Nervous System.** “Central nervous system vasculitis is an inflammatory condition that may be a primary angiitis or secondary to a variety of disorders, such as infections, medicaments, autoimmune diseases, and malignancy.” (West S G).

Caffeine was not included as an etiology of these diseases, but is one of their worsening factors, and avoidance of caffeine is one of their main therapeutic measures.

**XVI - 13) Anorectal atresia:** On “a case-control study with 464 infants with anorectal atresia and 4940 infants with no major birth defects... an association between anorectal atresia and maternal exposure... the crude odds ratio (OR) for cigarette smoking was 1.2... for non-smokers exposed to environmental tobacco smoke at home and work was OR = 2.3... for the highest caffeine intake (> or =300 mg/day) was OR = 1.5.” (Miller E A, and others).

**XVI - 14) Antiphospholipid antibody syndrome?** “Latin American mestizo patients with primary antiphospholipid syndrome have a wide variety of clinical and immunological manifestations with several differences in their prevalence in comparison with European white patients.” (Mejía-Romero R, and others).

These differences are consequent to inherited (genetic) different reactions to their etiologies, and one of the etiologies probably is caffeine.

**XVI - 15) Antisocial personality disorder and abuse of alcohol, cannabis or cocaine:**
“Five cups of brewed coffee per day, or the equivalent caffeine intake in tea or cola, made people more than twice as likely to exhibit adult antisocial personality disorder, and abuse of alcohol, cannabis or cocaine.” (Kendler K).

XVI - 16) Anxiety disorder.
“Caffeine produces mild psychostimulant and sometimes anxiogenic effects by antagonizing adenosine at A(1) and A(2A) receptors. At the 150 mg dose of caffeine, we found a significant association between caffeine-induced anxiety and variation in the genes for ADORA2A, and DRD2 receptors.” (Childs E, and others).

XVI - 17) Aortic aneurism and intra-cranial arterial aneurism: “Theophylline and caffeine induce aortic aneurysms to embryonic chicks.” (Yokoama H, and others).

We noted that our patients with arterial aneurisms, as the intra-cranial as the aortic ones, were great drinkers of coffee, or colas or other caffeinated drinks daily. We suppose that these aneurisms are consequent to a genetic tendency added up with the deleterious chronic action of the caffeine, but we have no statistical proof of this.

We suggest to the patients with the familiar tendency to arterial aneurim, in order to prevent its deadly occurrence, to avoid the caffeine for life.

“Chronic coffee consumption exerts a detrimental effect on aortic stiffness and wave reflections, which may increase the risk of cardiovascular disease.” (Vlachopoulos C and others).

“Limited but consistent evidence suggested that caffeine intake acutely increased arterial stiffness (Cohen's d = 0.34-0.51).” (Pase M P, and others).

XVI - 19) Arterial blood hypertension:
“Caffeine's acute effect on blood pressure indicate changes of 3-15 mmHg systolic and 4-13 mmHg diastolic. Typically, blood pressure changes occur within 30 minutes, peak in 1-2 hours, and may persist for more than 4 hours.” (Mort J R, and Kruse H R).

“We conclude that caffeine is a pressor agent”. (Onrot J and others).

Studying only female registered nurses without previous arterial hypertension despite they already were drinking caffeine, which means that these selected nurses had a reasonable endurance to the caffeine, the authors found: “Even though habitual coffee consumption was not associated with an increased risk of hypertension, consumption of sugared or diet cola was associated with it.” (Winkelmayer W C, and others). This conclusion shows us that caffeine with little water (coffee) has less effect on arterial hypertension than caffeine with more water (cola beverages).

The Arterial Hypertension begins early: We had an 8 year-old boy, Mulatto, weighting 55 kilograms (121 pounds). Her mother knew somewhere that “water is good to health”, and forced him since breast-feeding, to drink much water daily. When he was with 4-year-old, he drank beyond 3 until 5 liters (from less than 1 up to 1.5 gallons) of water daily. At school, he began to drink soft drinks with guaraná (which has caffeine). He also begun to have arterial hypertension at that 4-year-old, uncontrollable with medicaments, and which was only controlled withdrawing the guaraná drinks. Do you think that this was only a coincidence?

Arterial Hypertension and Migraines caused by the caffeine: We had a white school-teacher, 28-year-old, 1 child, 61 kilograms of weight, 1.72 meters (5 feet and 8 inches) tall, complaining of occasional left eye aches, worsening when she drank wine. We found all normal in her eyes and prescribed her to stop the wine drinks.

She came again for consultation after 4 years, with eyes sorrows at morning, occasional vision blurring when working with the computer; few headaches at the head’s top and occipital areas. She also complained of chronic dizziness, tearfulness and sneezes. Other physician advised her that the arterial tension was increasing, irregularly. She drank daily 3,000 milliliter of coffee (nearly 1 gallon). We
found no eyeglasses needs, physiologic intraocular pressures (16 and 16 mmHg), physiologic anterior chambers. On direct ophthalmoscopy, she presented physiologic Optic Nerve’s cups, of 0.4/2/0/0 (cup-disk diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), but her arteries show the aspects of diffuse arteriosclerosis, which make her prone to the arterial hypertension.

Here we have two lessons:
1. The occasional peaks of intraocular pressure caused the aches and other symptoms she felt, but without any Optic Nerve’s damage because she was not medicating the increasing arterial pressure.
2. This beginning arterial hypertension is an advanced notice, and this patient must decide:
   - or stopping the caffeine drinks and prevents the arterial hypertension and many future illnesses,
   - or continue the caffeine drinks and be prepared to its heavy consequences.

“Overall, the impact of dietary caffeine on population blood pressure levels is likely to be modest, probably in the region of 4/2 mmHg. At these levels, however, population studies of blood pressure indicate that caffeine use could account for premature deaths in the region of 14% for coronary heart disease and 20% for stroke.” (James J E).

The hypertensive effect of caffeine occurs only in the people with genotype of the cytochrome P450 1A2 (CYP1A2) carriers of slow *1F allele: “We assessed prospectively 553 young White individuals... During a median follow-up of 8.2 years, 323 individuals developed hypertension. For carriers of the slow *1F allele (59%), hazard ratios of hypertension were 1.00 in abstainers, 1.72 in moderate coffee drinkers and 3.00 in heavy drinkers. In contrast, hazard ratios for coffee drinkers with the rapid *1A/*1A genotype were 0.80 for moderate drinkers and 0.36 for heavy drinkers. Urinary epinephrine was higher in coffee drinkers than abstainers but only among individuals with slow *1F allele... The risk of hypertension associated with coffee intake varies according to Cytochrome P450 1A2 genotype. Carriers of slow *1F allele are at increased risk and should thus abstain from coffee, whereas individuals with *1A/*1A genotype can safely drink coffee.” (Palatini P, and others).

XVI - 20) Arterial thromboses: The Arterial thromboses that affect patients who smoke too much, are consequent to the Nicotine or to the Caffeine that they also drink?

“Caffeine concentration-dependently enhanced tissue factor protein expression and surface activity in human endothelial cells stimulated by tumour necrosis factor (TNF)-α or thrombin... Caffeine enhances the prothrombotic potential of endothelial cells.” (Gebhard C and others).

XVI - 21) Asthma worsening:
The caffeine worsens our patients with Asthma, which became better or cured after one month without caffeine. This asthma worsening already was proved by others:

“Exhaled nitric oxide may be a biomarker for airway eosinophilia and of use in the management of childhood asthma... Exhaled NO was measured in eleven children with asthma before, 30 and 60 min after taking a cola drink containing 0.7 mg/kg caffeine... The median [interquartile range] at baseline was 47 parts per billion [9,64] and this rose to 56 parts per billion [11, 66] after 30 min and returned to 46 parts per billion [9, 62] after 60 min... Ingestion of a caffeine-containing cola drink may result in clinically relevant acute changes in exhaled nitric oxide for children with asthma.” (Abuzayan I, and others).

XVI - 22) Atopy (asthma, eczema, atopic dermatitis, rhinitis, hay-fever (pollinosis), keratoconjunctivitis). Vernal keratoconjunctivitis: “The prevalence of both childhood headache and migraine was significantly and proportionally higher in children with atopic disorders (asthma, eczema or rhinitis). Rhinitis in young children was associated with maternal migraine.” (Mortimer M J, and others).

We have cured our patients with atopy, rhinitis with coriza or obstructive, and other atopy, stopping their caffeine. We have cured also the asthma patients, or say, they have cured themselves staying without caffeine. We really don't cure them: we only teach them how to cure themselves.
“Farm children (n = 133) living in a rural area suffer less frequent from pollinosis (2.4%) and bronchial asthma (1.6%) than children (n = 966) with no direct contact to agriculture, but living in the same area (prevalence of hay-fever 18.3%, of asthma 9.1%). These large Swiss epidemiologic studies confirmed both, the high prevalence of atopy and atopic diseases, and the health impact of moderate air pollution levels and of factors associated with the ‘western lifestyle’.” (Wuthrich B).

Caffeine is the “western lifestyle” factor that increases the asthma sufferers by five times and the hay-fever by seven times. Caffeine causes the propensity to all atopy sicknesses. Are the profits of the coffee, cola and chocolate industries more important than the millions of children suffering with these sicknesses all over the world?

XVI - 23) Attention-Deficit Hyperactivity Disorder.

“The Norwegian Mother and Child Cohort Study. Participants were 25 343 mothers and their 18-month-old children... There was a small effect of caffeine intake at 17th week of gestation on inattention/overactivity combined, and both 17th and 30th week of gestation on overactivity, when investigated separately from inattention. Surprisingly, the caffeine effect was only found for soft drinks, not tea or coffee.” (Bekkhus M, and others).

This disorder is related with the brain development: “A 10-year study by National Institute of Mental Health demonstrated that the brains of children and adolescents with Attention-Deficit Hyperactivity Disorder are 3-4% smaller than those of children without the disorder, and that pharmacologic treatment is not the cause. The more severe patients' Attention-Deficit Hyperactivity Disorder symptoms, as rated by parents and clinicians, the smaller their frontal lobes, temporal gray matter, caudate nucleus, and cerebellum were.” (Montauk S L and Mayhall C). And they add:

“Approximately 30-50% of people with Attention-Deficit Hyperactivity Disorder have other significant psychiatric comorbidities:

- Anxiety disorders
- Bipolar disorder
- Conduct disorder
- Depression
- Dissociative disorders
- Eating disorder
- Generalized anxiety disorder
- Learning disability
- Mood disorder.
- Obsessive-compulsive disorder
- Oppositional defiant disorder
- Panic disorder with or without agoraphobia
- Pervasive developmental disorder including Asperger disorder
- Posttraumatic stress disorder
- Psychotic disorders
- Social phobia
- Sleep disorder.
- Substance-related disorders
- Thought disorder”.

These authors also prescribe to the patients with Attention-Deficit Hyperactivity Disorder:

“Diet: … a healthy diet with minimal, if any, caffeine should be emphasized.”

As caffeine causes or worsens most of the psychiatric morbidities above, and as the Attention-Deficit Hyperactivity Disorder is congenital, we suspect that the daily caffeine drank by the pregnant mother causes this brain damage in her baby.

XVI - 24) Autophagy in skeletal muscle cells: “Though caffeine has been shown to promote autophagy in various mammalian cell lines ...Our results indicate that in skeletal muscle cells caffeine increases autophagy by promoting the calcium-dependent activation of AMP-activated protein kinase.” (Mathew T S and others).
XVI - 25) Axillary Hyperhidrosis: “Since hyperhidrosis of all kinds can be exacerbated by stimulant-containing foods, especially caffeine and theobromine, dietary restriction of coffee, tea, cola soft drinks, and chocolate may improve mild cases of hyperhidrosis.” (Karpinski R H S).

XVI - 26) Behavioral disturb: “In 132 children 12-24 months of age who had received coffee for > 2 months...The effects of postnatal coffee ingestion in Guatemala were seen for sleep duration... Prenatal coffee ingestion was negatively associated with Behavior Rating Scales.” (Engle P L, and others).

“From 602 Western New York undergraduate students in the spring of 2006...Frequency of energy drink consumption was positively associated with marijuana use, sexual risk-taking, fighting, seatbelt omission, and taking risks on a dare for the sample as a whole, and associated with smoking, drinking, alcohol problems, and illicit prescription drug use for white students but not for black students... Energy drink consumption is closely associated with a problem behavior syndrome, particularly among whites. Frequent consumption of energy drinks may serve as a useful screening indicator to identify students at risk for substance use and/or other health-compromising behavior.” (Miller K E).

XVI - 27) Behavioral disturb at the second generation: “Intrauterine exposure to soft drinks rather than coffee, the traditional focus, is associated with maternal reports of overactive behaviour in children aged 18 months.” (Bekkhus M, and others).

“In utero exposure to caffeine and its metabolites results in altered behavioral patterns in infant monkeys.” (Gilbert S G, and Rice D C).

On pregnant mice, “Perinatal caffeine, by acting on adenosine A(1) receptors in the mother, causes long-lasting behavioral changes in the offspring that even manifest themselves in the second generation.” (Björklund O, and others).

XVI - 28) Bipolar disorder. “Patients with bipolar disorder are at risk for an exacerbation of manic symptoms when they consume large amounts of caffeine. This is due both to its direct psychostimulant properties and secondary to increase renal excretion of lithium.” (Lande R G).

XVI - 29) Birth defects: Anotia/Microtia, Esophageal atresia, Small intestinal atresia, and Craniosynostosis. “Using data from the National Birth Defects Prevention Study,...included 3,346 case infants... born from October 1997 through December 2005. We observed small, statistically significant elevations in adjusted odds ratios ranging from 1.3 to 1.8 for total maternal dietary caffeine intake or specific types of caffeinated beverages and anotia/microtia, esophageal atresia, small intestinal atresia, and craniosynostosis; however, dose-response patterns were absent.” (Browne M L, and others).

XVI - 30) Bladder cancer: In Uruguay, “In the time period 1996-2000, 255 incident cases with transitional cell carcinoma of the bladder...Ever maté drinking was positively associated with bladder cancer (odds ratio [OR] 2.2) and the risk increased for increasing duration and amount of maté drinking. Both coffee and tea were strongly associated with bladder cancer risk (OR for coffee drinking 1.6; OR for tea drinking 2.3). These results were confirmed in a separate analysis of never-smokers.” (De Stefani E, and others).

Studying Netherlanders with 55 to 69 year-old, “The data suggest a possible positive association between coffee consumption and bladder cancer risk in men and a probable inverse association in women. Tea consumption was inversely associated with bladder cancer. Total fluid consumption did not appear to be associated with bladder cancer.” (Zeegers M P, and others).

“In a cohort of Japanese, comprising a total of 49,566 men aged 40-69 years... coffee and caffeine consumption were associated with an increased risk of bladder cancer in never- or former-smoking men, with hazard ratios of coffee (one or more cups per day) and caffeine consumption of 2.24 and 2.05, respectively.” (Kurahashi N, and others).

“In New York State women aged 20-49 years (173 matched pairs) in 1975-1980... Both known and suspected risk factors for bladder cancer were examined for these rare, early-onset female cases. Cases consumed more coffee per day than did controls.” (Piper J M, and others).
XVI - 31) Bone development inhibition: “Oral caffeine administration to rats implanted with demineralized bone particles resulted in a dose dependent inhibition of the formation of cartilage tissue in the implants... Lower doses of 50 and 12.5 mg/kg caffeine also resulted in decreased cellular proliferation and transformation to cartilage histologically and reflected by significant inhibition of type II collagen mRNA levels... Thus the observed delayed mineralization in the fetal skeleton associated with caffeine appears to be related to an inhibition of endochondral bone formation at the early stages of proliferation of undifferentiated mesenchymal cells to cartilage specific cells as well as at later stages of bone formation.” (Barone L M, and others).

XVI - 32) Bones weakening and lower bone mass: "Long-term consumption of caffeinated soft drinks was negatively associated with (bones) polar strength strain index and periosteal circumference, which reflect bone modeling." (Libuda L, and others).

On “Four clinical centers in Baltimore, Maryland; Minneapolis, Minnesota; Portland, Oregon; and the Monongahela valley, Pennsylvania... A total of 9704 ambulatory, nonblack women, ages 65 years or older... Gastric surgery, age, history of maternal fracture, smoking, and caffeine intake were associated with lower bone mass.” (Bauer D C, and others).

“Dietary intakes of 359 men and 358 women (aged 72 years), participants of the Prospective Investigation of the Vasculature in Uppsala Seniors, were assessed... Two years later...Men consuming 4 cups of coffee or more per day had 4% lower Bone mineral density at the proximal femur compared with low or non-consumers of coffee... In high consumers of coffee, those with rapid metabolism of caffeine (C/C genotype) had lower Bone mineral density at the femoral neck and at the trochanter than slow metabolizers (T/T and C/T genotypes). Calcium intake did not modify the relation between coffee and Bone mineral density.” (Hallstrom H, and others).

XVI - 33) Brain disorders in the fetus and postnatal: “Does the Crick-Mitchison theory suggest if a drug could interfere with rapid eye movement sleep and cross the placental barrier, then that drug might cause developmental brain disorders in the fetus? Should all pregnant women completely avoid caffeine or any agent that might disrupt serotonergic or cholinergic systems?” (Brown D W).

“Chronic caffeine intake during rapid periods of growth (on rats) influences various parts of the brain in entirely different biochemical manners.”(Yazdani M, and others).

“These results suggest that postnatal caffeine treatment (on mice) might induce an alteration of astrocytogenesis via A2aR blockade during brain development. … Postnatal caffeine treatment could have long-term consequences on brain function.” (Desfrere L, and others).

XVI - 34) Breast cancer. Atypical hyperplasia of Benign Breast Disease:

“Circulating estrogens and androgens are important factors in the development of various female cancers... In 524 premenopausal and 713 postmenopausal women from the Nurses' Health Study... caffeine may alter circulating levels of luteal estrogens and sex hormone-binding globulin, representing possible mechanisms by which coffee or caffeine may be associated with pre- and postmenopausal malignancies, respectively.”(Kotsopoulos J, and others).

“High caffeine consumption was positively associated with risk of atypical hyperplasia of Benign Breast Disease”. (Webb P M and others).

Studying 14,593 Norwegian women then aged 35 to 49 years, “among the leaner women (body mass index less than 24), those who drank five or more cups of coffee per day had a 50% decrease in risk of breast cancer, as compared with those who drank two cups or less. Among the heavier subjects, the opposite relationship was observed: the women who drank the most coffee showed a twofold increase in risk.” (Vatten LJ, and others).
“In women with benign breast disease, a borderline significant positive association with breast cancer risk was observed for the highest quintile of caffeine consumption (RR, 1.32) and for the highest category of coffee consumption (> or =4 cups daily) (1.35); tests for interaction were marginally significant. Caffeine consumption was also significantly positively associated with risk of estrogen receptor-negative and progesterone receptor-negative breast cancer (RR, 1.68) and breast tumors larger than 2 cm (1.79).” (Ishitani K, and others).

“Trigonelline, a niacin-related compound, is a natural constituent of coffee accounting for approximately 1% dry matter in roasted beans... Trigonelline stimulated estrogen-dependent human breast cancer MCF-7 cell proliferation in a dose-responsive manner and significantly enhanced cell growth at concentrations as low as 100 pmol/L... and that this effect is mediated through estrogen receptor, clearly identifying Trigonelline as a novel phytoestrogen.” (Allred K F, and others).

XVI - 35) Breast feeding baby disturbs: “Caffeine can enter the breast milk of nursing mothers” (International Food Information Council. August 2002). According to the American Academy of Pediatrics (2002), "Caffeine tends to build up in babies’ systems because their bodies cannot get rid of it very easily. A morning cup of coffee is not likely to harm your baby, but too much caffeine can cause problems such as poor sleeping, nervousness, irritability, and poor feeding.” (National Toxicology Program).

XVI - 36) Breast Volume Reduction: “Among healthy premenopausal non-hormone users, 3+ (coffee) cups per day was associated with lower (breast) volume only in CYP1A2*1F C-allele carriers.” (Jernström H, and others).

XVI - 37) Caffeine acute intoxication: “The elimination of caffeine was investigated in a 1860 g, 31 week gestation neonate, following the accidental administration of a 160 mg.kg-1 dose... Toxic manifestations included hypertonia, sweating, tachycardia, cardiac failure, pulmonary oedema, metabolic acidosis, hyperglycaemia and creatine kinase elevation. An unusual feature of this infant's illness course was gastric dilatation. These signs resolved by day 7 at a serum concentration of 60-70 mg.l-1.” (Anderson B J, and others).

“A 33-year-old woman developed severe post-lumbar puncture headaches in the course of work-up for multiple sclerosis. Immediately after receiving treatment with intravenous caffeine, she became blind and experienced a generalized tonic-clonic seizure. Brain MR imaging then showed vasogenic parieto-occipital edema. She recovered clinically and radiologically within 72 hours. After 1 year of follow-up, there was no recurrence of symptoms or radiologic changes.” (Ortiz G A, and others).

“An acute overdose of caffeine, usually in excess of 400 milligrams can result in a state of central nervous system overstimulation called caffeine intoxication.”(Wikipedia).

The energy drink exposures in an Australian poisons centre over 7 years to 2010: "Callers reported 297 exposures to energy drinks, which showed an increasing annual trend from 12 in 2004 to 65 in 2010. Median age for the 217 subjects with recreational exposure was 17 years... and 57% were male. One hundred recreational users co-ingested other substances, predominantly alcohol (50) or other caffeinated products (44)... Most subjects who reported recreational use reported experiencing symptoms (87%). The most common symptoms were palpitations, agitation, tremor and gastrointestinal upset. Twenty-one subjects had signs of serious cardiac or neurological toxicity, including hallucinations, seizures, arrhythmias or cardiac ischaemia. At least 128 subjects (57 with no co-ingestants) required hospitalisation.” (Gunja N and Brown J A).

XVI - 38) Caffeine Dependence: Caffeine causes Dependence, but there are individual differences from each patient, from the daily caffeine drank dosage, and from the other substances in the beverages. The criteria of Dependence from the American Psychiatric Association in the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV), are:
1. Tolerance.
2. Substance-specific withdrawal syndrome.
3. Substance often taken in larger amounts or over a longer period than intended.
4. Persistent desire or unsuccessful efforts to cut down or control use.
5. A great deal of time spent in activities necessary to obtain, use, or recover from the effects of 
the substance.
6. Important social, occupational, or recreational activities given up or reduced because of 
substance use.
7. Continued intake despite knowledge of a persistent or recurrent physical or psychological 
problem that is likely to have been caused or exacerbated by the substance.
8. **Dependent is the patient that fulfills at least three of the above criteria.**

   “Although caffeine shares some characteristics with other chemicals of abuse with regard to both 
psychological and physiological dependence, important differences exist, especially pertaining to the 

   “Survey data suggest that 9% to 30% percent of caffeine consumers may be caffeine dependent ac-

**XVI - 39)** “Caffeinism”: The chronic intoxication with caffeine.

   “The relative risk of experiencing symptoms for people consuming 240 mg of caffeine (approximately 
4-5 cups of coffee or tea) per day (the population average) compared with caffeine abstainers is 
1.6 for palpitations, 1.3 for tremor, 1.3 for headache, and 1.4 for insomnia in males and 1.7, 1.5, 1.2 
and 1.4 respectively for females.” (Shirlow M J, and Mathers C D).

   “**Caffeinism** usually combines "caffeine dependency" with a wide range of unpleasant physical and 
mental conditions including nervousness, irritability, anxiety, tremulousness, muscle twitching (hyper-
reflexia), insomnia, headaches, respiratory alkalosis and heart palpitations. Furthermore, because caf-
feine increases the production of stomach acid, high usage over time can lead to peptic ulcers, erosive 
esophagitis, and gastro-esophageal reflux disease.” (modified from Wikipedia).

   “medicament overuse (combination analgesics and/or an ergotamine-caffeine preparation) headache 
is thus associated with (brain) reversible metabolic changes in pain processing structures like other 
chronic pain disorders, but also with persistent orbitofrontal hypofunction. The latter is known to occur 
in drug dependence and could predispose subgroups of migraneurs to recurrent analgesic overuse.” 
(Fumal A, and others).

**XVI - 40)** Cancers (other) related with caffeine, with its derivatives, and with “Coca-Cola”:

   “**Caffeidine** causes human cancer, possibly through endogenous nitrosation to form mononitroso 
cafeidine. Avoiding consumption of salted tea (addition of sodium bicarbonate) or coffee that prevents 
the intake of caffeidine will possibly eliminate the risk of mononitroso cafeidine carcinogenicity.”(Panda G S, and others).

   “Caffeine or coffee appears to enhance the frequency with which other carcinogens induce tu-
mors. Adventists who use coffee are reported to have a greater risk of colon and bladder cancer. 
Coffee consumption has been implicated in cancer of the kidney, ovaries, and large bowel, while tea 
consumption has been associated with an increased risk of cancer of the rectum.” (Andrews Univer-
sity Nutrition Department).

   “**Caffeine** and other methylxanthines (theophylline in tea and theobromine in chocolate) have 
been suggested as possible risk factors for breast cancer. Methylxanthines have been reported to in-
crease the severity of fibrocystic breast disease, a benign breast disease, which may increase the 
**risk of breast cancer.”(Andrews University Nutrition Department).

   “Coca-Cola was invented in May 1886 in Atlanta, Georgia by a pharmacist who, by accident or de-
design, mixed carbonated water with the syrup of sugar, phosphoric acid, caffeine, and other natural fla-
avors... Coca-Cola is currently sold in more than 200 countries and in early 2000, the company sold its 
10 billionth unit case of Coca-Cola branded products... Its long-term effects when administered as sub-
stitute for drinking water on male and female Sprague-Dawley rats... indicate:

   (a) an increase in body weight in all treated animals;
   (b) a statistically significant increase of the incidence in females, both breeders and offspring, bearing 
malignant mammary tumors;
(c) a statistically significant increase in the incidence of exocrine adenomas of the pancreas in both male and female breeders and offspring; and 
(d) an increased incidence, albeit not statistically significant, of pancreatic islet cell carcinomas in females. On the basis of the results of this study, excessive consumption of regular soft-drinks should be generally discouraged, in particular for children and adolescents.” (Belpoggi F, and others).

“Xeroderma pigmentosum variant (XP-V) is a rare genetic disease, characterized by some sunlight sensitivity and predisposition to cutaneous malignancies. We described clinical and genetic features of the largest collection ever published of 23 XPV patients (ages between 21 and 86) from 20 unrelated families. Primary fibroblasts from patients showed normal nucleotide excision repair but UV-hypersensitivity in the presence of caffeine, a signature of the XP-V syndrome. 87% of patients developed skin tumors with a median age of 21 for the first occurrence. The median numbers of basal-cell carcinoma was 13 per patient, six for squamous-cell carcinoma, and five for melanoma..., the life-cumulated UV exposure is probably the best predictor of cancer incidence, reinforcing the necessity to protect XP-Vs from sun exposure.” (Opletalova K and others).

XVI - 41) Cardiac Arrest (primary): “High usual caffeine consumption (> or = 687 mg per day) was associated with a modestly elevated risk of primary cardiac arrest. The elevated risk associated with high caffeine consumption appeared to be restricted to never-smokers.” (Weinmann S, and others).

- Atrial: “We present a case of caffeine-induced atrial fibrillation which spontaneously reverted to normal sinus rhythm. Caffeine is a methylxanthine alkaloid that can cause various supraventricular and ventricular arrhythmias. It is important to improve public awareness of the potential adverse effects of high consumption of caffeine-containing products as fatal and serious events can occur.”(Artin B, and others).
- Ventricular: “Moderate tea intake (< 14 cups per week) during the year prior to infarction is associated with a lower prevalence, and higher coffee intake (> 14 cups per week) with a slightly higher prevalence, of ventricular arrhythmias among patients hospitalized with acute myocardial infarction” (Mukamal K J, and others).
- Fetal tachycardia: “Caffeine ...blocks A1 and A2 adenosine receptors and in high doses inhibits the phosphodiesterase activity. Caffeine also decreases calcium ion accumulation in the mitochondria of cardiomyocytes... Caffeine and coffee increase the arterial wall stiffness, blood pressure and endothelium-dependent flow mediated dilatation. Caffeine also elevates cholesterol and homocysteine blood level... Acceleration of acute ischemic cardiac disease correlates with high coffee intake... and may induce intrauterine growth retardation. Due to chronotropic and inotropic activity it may induce fetal tachycardia and/or extrasystolic beats”. (Dworzanski W, and others).

XVI - 43) Cardiac Impairment of Ventricular Function: “In young healthy subjects,…Caffeine assumption alone does not exert any acute effect on ventricular long-axis function, but potentiates the negative effect of cigarette smoking by abolishing right ventricular supernormal response and leading to a simultaneous impairment in both left ventricular and right ventricular diastolic function.” (Giacomini E, and others).

XVI - 44) Cardiac underdevelopment and increase in body fat: “Pregnant mice (C57BL/6) were treated with caffeine (20 mg/kg, i.p.)... This caffeine dose results in a circulating level that is equivalent to 2 cups of coffee in humans. Exposure to a single dose of caffeine inhibited cardiac ventricular development by 37%. When offspring were studied in adulthood, we observed that caffeine treatment alone resulted in a decrease in cardiac function of 38%, as assessed by echocardiography. We also observed a 20% increase in body fat with male mice exposed to caffeine. Exposure to a single dose of caffeine during embryogenesis results in both short-term effects on cardiac development and long-term effects on cardiac function.” (Wendler C C, and others).

Is this the cause of the epidemic obesity in children?
XVI - 45) Carpal Tunnel Syndrome: “Overuse of legal drugs (eg, caffeine, nicotine, alcohol) can contribute to Carpal Tunnel Syndrome and, therefore, should be reduced.” (Ashworth N L).

The compression of the Median Nerve in the Carpal tunnel probably is caused by the association of caffeine which swells the nerve and causes its allodynia, with the friction of the digital work, in a patient excessively sensitive to the caffeine's effects. It occurs with any portion of caffeine or theobromine daily, even very few. A daily small piece of chocolate is enough.

XVI - 46) Cartilage destruction: “Caffeine also accelerates destruction of glucosamine in the body’s cartilage. When our bodies are younger, this does not have an immediate impact because the body is still able to manufacture its own glucosamine. Starting at around age 40, however, the body stops manufacturing glucosamine. Any cartilage destroyed by caffeine at this time is permanently lost unless replaced by nutritional supplementation.” (Isis Life Energy Health Center).

“Cartilage explants exposed to...theophylline increased Glycosaminoglycan, Prostaglandin E(2), and Nitric oxide release... Endogenous adenosine levels appear to regulate cartilage matrix homeostasis even in the absence of inflammation. ..Autocrine and paracrine responses to adenosine release are important for maintenance of healthy articular cartilage.” (Tesch A M, and others).

XVI - 47) Cataract congenital: “Excessive maternal caffeine exposure during pregnancy had cataractogenic effects on developing crystalline lenses in newborn rat eyes, both macroscopically and histopathologically.”(Evereklioglu C, and others).

XVI - 48) Celiac (coeliac) disease (gluten enteropathy) (sprue) (collagenous-lymphocytic colitis) worsening: Coeliac disease is caused by a genetic digestive deficiency. Meanwhile, the caffeine worsens it, besides causing many other signs and symptoms, mainly neurological ones. Our patients with congenital coeliac disease lessened their symptoms when stopped their caffeine ingestion.

XVI - 49) Cells division (DNA replication) (Chromosomes) disturbs: “The ability to bypass DNA lesions encountered during replication is important in order to maintain cell viability and avoid genomic instability...Translesion DNA synthesis is performed by low-fidelity polymerases, which can replicate across damaged sites. Homologous recombination represents an alternative pathway for the rescue of stalled replication forks. Caffeine has long been recognized to influence post-replication repair... We found that caffeine delays the progress of replication forks in UV-irradiated Chinese hamster cells... Furthermore, caffeine attenuated the frequency of UV-induced mutations in the hprt gene...In cells exposed to UV-light, caffeine inhibits the rescue of stalled replication forks by translesion DNA synthesis, thereby causing a switch to bypass via homologous recombination. The biological consequence of the former pathway is mutations, while the latter results in chromosomal aberrations.” (Johansson F, and others).

“Breaks were observed at 51 sites in homologous chromosomes in lymphocytes from ten humans and two great apes when cells were deprived of thymidine. The incidence of breaks was enhanced by caffeine, a substance that inhibits DNA repair in replicating cells. The locations of 20 sites were correlated with breakpoints that have been related to human malignancy.” (Yunis J J, Soreng A L).

“After a single X-ray irradiation in Allium cepa L. root meristematic cells”... on the cells mitoses... “Cell accumulation in G2 was transient and partially reversed by caffeine... The additional G2 time provided by this checkpoint was never long enough to complete DNA repair. Then, in all cases, some G2 cells with still-unrepaired DNA underwent checkpoint adaptation, i.e., they entered into the late mitotic wave with chromatid breaks. These cells and those produced by the breakage of chromosomal bridges in anaphase will reach the G1 of the next cell cycle unrepaired, ensuring the appearance of genome instability.” (Carballo J A, and others).

“Caffeine inhibits cell cycle checkpoints, sensitizes cells to ionizing radiation-induced cell killing and inhibits the protein kinase activity of two cell cycle checkpoint regulators, Ataxia-Telangiectasia mutated (ATM) and ATM- and Rad3-related.” (Block W D, and others).
XVI - 50) Cerebral aneurysm? We perceived a coincidence of patients referring relatives with Cerebral aneurysm with the information of their excessive caffeine consumption. Is this only a coincidence or a cause and effect relation?

XVI - 51) Cerebral blood flow decreased: “Caffeine lowers the blood oxygenation level-dependent signal by acting as an adenosine antagonist, thus decreasing the cerebral blood flow. Maximum signal decrease of veins occurred 40-50 minutes after ingestion of a tablet containing 200 mg of caffeine. The signal decrease was -16.5 +/-6.5% for the caffeine users group, and -22.7 +/-8.3% for the caffeine abstainer group.” (Sedlacik J, and others).

“Ingestion of 250 mg of caffeine reduced cerebral blood flow by 22% and reduced middle cerebral artery blood velocity by 13%. Caffeine reduced (cerebral) arteriole diameter by 5.9% and middle cerebral artery diameter by 4.3%.” (Lunt M J, and others).

XVI - 52) Cerebral fetal underdevelopment: “This study again demonstrated that prenatal caffeine intake in combination with protein-energy malnutrition produces permanent effects on the trigeminal nuclear center indicated by autoradiography and changes in biochemical parameters.” (Saito T, and others).

“Our rat model indicates maternal caffeine ingestion during pregnancy is associated with reduction of fetal cerebral weight and protein content without reduction of body weight.” (Tanaka H, and others).

XVI - 53) Cerebral palsy? “In term infants, the rate of maternal migraine was higher in those with Cerebral palsy than in controls (OR=2.18).” (Blair E M, and Nelson K B). There was missing only to ask to these mothers about the main etiology of their migraines, which surely was caffeine.

XVI - 54) Childhood obesity (congenital): “In-utero exposure to caffeine overall is associated with 87 percent increased risk of childhood obesity: odds ratio (OR) =1.87. This association demonstrated a dose-response relationship: OR=1.77 for maternal daily caffeine intake<150 mg/day, OR=2.37 for caffeine intake ≥150 mg/day during pregnancy, respectively. We also observed a linear relationship: every one unit increase (log₁₀ scale) in the amount of maternal caffeine intake was associated with 23% increased risk of obesity in offspring. The dose-response relationship appears stronger for persistent obesity than for transitory obesity (occasional high BMI), and for girls than for boys.” (Li D K and others).

XVI - 55) Choanal atresia (in newborns): Choanal atresia causes serious posterior nasal obstruction. This defect is the leading cause of nasal surgery in newborns… Among isolated choanal atresia cases,… positive associations were observed for … pre-pregnancy daily coffee intake of 3 or more cups (OR=2.5) compared to intake of less than 1 cup per day. (Kancherla V and others).

XVI - 56) Chromosomal disorders? Down’s syndrome? As caffeine disturbs the cellular division, it is possible that it also increases the occurrence of genetic inherited disturbs, as Down's syndrome (Trisomy 21), and others. We had mothers of children with the Down's syndrome, but they were too few to make any statistic.


We had patients suffering with Thrombocitosis, and others from Thrombocitopenia, both related with caffeine.
Thrombocytosis and caffeine: We had a 42-year-old black strong patient, 1.85 meters (6 feet and 1 inch) tall, 83 Kilograms (182 pounds) of weight, user to drink 1,500 to 2,000 milliliter (half gallon) of coffee daily, during the last 30 years. Besides his myopia of -3.00 dioptre in both eyes, and a little eyes itching, he had no symptom, with the exception a Thrombocytosis he is suffering for more than 10 years. His eyes pressures show 16 and 15 mmHg right and left eyes, which are physiologic. On his ophthalmoscopy we found Optic Nerve’s cups of 0.5/3/0/0 and 0.6/4/1/0 right and left eyes (Cup’s diameter/ cup’s depth/ lamina cribosa’s pores visibility/ borders edema), which is suspect of Normal (Peak) Tension Glaucoma. Is his Thrombocytosis consequent to the enormous dose of caffeine drank daily for 30 years? Or is it only a coincidence?

XVI - 58) Cognitive behavior disturbs on offspring adults: “Pregnant rats dams drinking 75 mg/L caffeinated tap water throughout gestation... equivalent to 2-3 cups of coffee/day in humans... In adulthood, the offspring... Prenatal caffeine exposure was found to impair 24-hour memory retention in the novel object recognition task and impair both working and reference memory in the radial arm maze. Chronic oral intake of caffeine throughout gestation can alter adult cognitive behaviors in rats.” (Soeller D E, and others).

XVI - 59) Colorectal cancer: “This study suggests that the long-term intake of the dietary supplement (FastOne, which contains extracts of kola nut (with caffeine and theobromine – Microsoft Bookshelf 98), grape, green tea (also with caffeine and theobromine) and Ginkgo biloba, and is used as an agent for weight management) inducing Cytochrome P4501A2 may increase the incidence of colorectal cancers caused by procarcinogens activated by Cytochrome P4501A2 in rapid N-acetyltransferase-2 acetylators and of lung adenocarcinoma in slow acetylators.” (Ryu S D, and Chung W G).

“On British Caucasians, Cytochrome P450 CYP1A2 gene activity is lower in colorectal cancer patients than in controls, and CYP1A2 genotype had no effect on phenotype (based on the caffeine metabolite ratio).” (Sachse C, and others).

XVI - 60) Conception delayed for more than one year: “A retrospective study of 1,430 women interviewed at Fishkill, New York, and Burlington, Vermont...Information was obtained on 2,501 pregnancies since 1980...The delayed conception for more than one year was not increased among women who consumed < or = 300 mg of caffeine daily. Although smoking per se was associated with a significant increased risk of delayed conception, no effect of high caffeine consumption was observed among women who smoked. High levels of caffeine consumption (more than 300 mg caffeine daily) may result in delayed conception (> 12 months delay), among women who do not smoke cigarettes.” (Stanton C K, and Gray R H).

XVI - 61) Connective tissue growth factor synthesis inhibition: “Caffeine... inhibits the synthesis of connective tissue growth factor (CTGF/CCN2) in liver parenchymal and nonparenchymal cells, primarily by inducing degradation of Smad2 (and to a much lesser extent Smad3) and thus impairment of transforming growth factor beta (TGF-beta) signaling. CTGF and TGF-beta play crucial roles in the fibrotic remodeling of various organs.” (Gressner O A). “Our data suggest paraxanthine as the most important pharmacological repressor of hepatocellular connective tissue growth factor expression among the caffeine-derived metabolic methylxanthines with an inhibitory dosage (ID)50 of 1.15 mM, i.e. 3.84-fold lower than what is observed for caffeine.” (Gressner O A, and others).

This connective tissue weakness caused by caffeine and paraxanthine (1, 7-dimethylxanthine), explains their good prevention of hepatic cirrhosis, and their etiology of many sicknesses, as the pathological myopia, the keratoconus, the increase of the glaucomatous cup in the Optic Nerve, and others.

XVI - 62) Corneal staphyloma in Down syndrome. We had a 44 year-old man patient with Down syndrome, healthy and very well cared by his mother. He had high myopia, with minus 8 dioptre in each eye. He was user of daily coffee 60 milliliters (2 fluid ounces) and some chocolate. His mother referred that his left eye became “white” and “strange” some months ago, and now it was turning red and
with excessive tearing. We found an enormous corneal staphyloma in the left eye, complicated with an exposition ulcer over it. We medicated the ulcer, forbade the coffee and the chocolate, and teach her to occlude his left eye with adhesive paper tape every night, to prevent the corneal exposition when sleeping.

After 3 weeks of intensive care the ulcer was healed, but the staphyloma remained there. We stopped the medicament but kept the night occlusion to prevent another corneal exposition and ulcer. For our surprise, after more 6 weeks he came without the staphyloma, with only a cicatricial leucoma in the cornea. We suppose that this staphyloma was caused by the infection in addition to the caffeine in a frail patient, and improved with the caffeine's eschew.

The patient with the Down’s syndrome is frail in his entire body, not only in his cornea. Which are the other sicknesses in the Down’s syndrome patients caused by their caffeine daily intoxication?

XVI - 63) Coronary artery heart disease: “Overall, the impact of dietary caffeine on population blood pressure levels is likely to be modest, probably in the region of 4/2 mmHg. At these levels, however, population studies of blood pressure indicate that caffeine use could account for premature deaths in the region of 14% for coronary heart disease and 20% for stroke.” (James J E).

“... 127,212 subjects who supplied baseline data at voluntary health examinations from 1978 to 1985 were studied. Subsequently, 8,357 subjects were hospitalized for coronary artery disease. Coffee drinking was unrelated to coronary artery disease risk in 58,888 never smokers, but in ex-smokers and current baseline smokers, daily coffee intake was associated with higher coronary artery disease risk.” (Klatsky A L, and others).

“Diterpenes present in unfiltered coffee and caffeine each appear to increase risk of coronary heart disease. A lower risk of coronary heart disease among moderate coffee drinkers might be due to antioxidants found in coffee.” (Cornelis M C, and El-Sohemy A).

XVI - 64) Cortisol and adrenocorticotropic hormone increase: “Men (48) and women (48)... took capsules with... 250 mg (of caffeine) at 9:00 AM, 1:00 PM, and 6:00 PM... After 5 days of caffeine abstinence, caffeine challenge doses caused a robust increase in cortisol across the test day. In contrast, 5 days of caffeine intake at 300 mg/day and 600 mg/day abolished the cortisol response to the initial 9:00 AM caffeine dose, although cortisol levels were again elevated between 1:00 PM and 7:00 PM after the second caffeine dose taken at 1:00 PM. Cortisol levels declined to control levels during the evening.” (Lovallo W R, and others).

“Dietary doses of caffeine (3.3 mg/kg, equivalent to 2 to 3 cups of coffee), alone and combined with behavioral stress, in men at high risk versus low risk for hypertension...Caffeine alone elevated adrenocorticotropic hormone and cortisol in both groups, with more immediate responses in the high risk group. Both groups showed significant adrenocorticotropic hormone and cortisol responses to caffeine plus tasks, with the high risk group showing more persistent elevations. The high risk group also showed the highest levels of adrenocorticotropic hormone and cortisol after caffeine plus tasks.” (al'Absi M, and others).

XVI - 65) Costochondritis (Tietze Syndrome, Slipping Rib Syndrome): “Stress may contribute to the pain because it makes the muscles tense. Other things that hurt are ... caffeine.” (Diagnose me).

XVI - 66) Crohn’s disease: This bowels disease has many etiologies, and it worsens with the caffeine ingestion. All patients we had with the Crohn's disease became better avoiding entirely the caffeine.

XVI - 67) Cryptorchidism (undescended testes at birth persisting to at least age 2 years):

“Mothers of cryptorchid boys consumed more caffeine during pregnancy, for a range equivalent to three cups of coffee per day.” (Mongraw-Chaffin M L, and others).
Cyclical mastalgia (Menstruation-associated breast pain): Ader D N, and others, studying 874 women aged 18-44 year-old, found that “22% experienced moderate to extreme discomfort (classified as cyclical mastalgia).” They found also that “Smoking, caffeine consumption and perceived stress were associated with mastalgia (odds ratios = 1.52, 1.53 and 1.7, respectively).”

Death: In cases of extreme overdose of caffeine, death can result. “Five cases of death from ingestion of ...widely used non-prescription drugs sold as appetite suppressants or stimulants. Three of the cases had taken caffeine/ephedrine combinations, and two had taken caffeine only. All had lethal concentrations of caffeine detected in the blood (130 to 344 mg/L), and three had high ephedrine concentrations from 3.5 to 20.5 mg/L.” (Garriott J C, and others).

Dental caries in adolescents: “Regular caffeine ingestion may lead to increased, even habitual, usage. It is suggested that the combination of the consumption of highly sweetened soft drinks and habitual usage of caffeine may significantly increase a susceptible adolescent's potential for developing dental caries.” (Majewski R F).

Depression. “Severe depression is correlated with high blood-caffeine levels.” (Lande R G).

“At hospital the high caffeine users (98 consecutively admitted psychiatric inpatients) showed the highest score on the factor depression” (Rihs M, and others).

“Caffeine, the only licit psychoactive drug available to minors, may have a harmful impact on students' health and adjustment... Although both children and adolescents experience negative caffeine-related outcomes, ... youth appear vulnerable to increased depressive symptoms with increasing caffeine consumption.” (Luebbe A M, and Bell D J).

Diabetes mellitus: As caffeine worsens the Metabolic Syndrome, it also worsens the Diabetes mellitus type 1 and 2.

“Despite elevated and prolonged proinsulin, C-peptide, and insulin responses after caffeine ingestion, blood glucose was also increased, suggesting an acute caffeine-induced impairment in blood glucose management in men with type 2 diabetes.” (Robinson L E, and others).

Meanwhile, at Finland, on a population resistant to the caffeine toxic effect, caffeine is beneficial: “In all, 10 188 Finnish men and 11 197 women aged 35-74 years without a history of stroke, coronary heart disease or diabetes at baseline... Among obese and inactive people, coffee drinking of seven cups or more daily reduced the risk of type 2 diabetes to half. Coffee drinking was associated with a reduced risk of type 2 diabetes in both men and women.” (Hu G, and others).

Diabetes mellitus in the offspring adulthood: “The intake of caffeine during gestation markedly decreases birth weight and postnatal body weight of the offspring. Serum insulin levels of adult offspring after oral glucose tolerance test were significantly lower in the caffeine group compared to the control, although plasma glucose levels were not significantly altered... In a rat pancreatic β-cell line Rin-5f cells, caffeine downregulated expression of one of the proteins involved in insulin synthesis, P4hb, and there was reduced transcriptional expression of insulin. While basal insulin secretion of caffeine-treated cells was elevated, insulin secretion after glucose challenge in long-term caffeine-treated cells was significantly reduced, with increased apoptosis of β-cells. These results indicate that maternal caffeine exposure may result in potentially abnormal glucose homeostasis and increase the risk of type 2 diabetes mellitus in the offspring adulthood.” (Sun T and others).

Digestive disturbs: “Immoderate and continued dosage of caffeine or the excessive use of tea and coffee profoundly disturbs the digestive function, resulting in gastric catarrh, indigestion, hepatic congestion, constipation, and hemorrhoids. Tea, by reason of the high percentage of tannin contained, frequently causes constipation.” (Butler G F).
**XVI - 75) Diuresis:** “...12 healthy male... urinary output and natriuresis were significantly increased by caffeine (mean differences 243 ml and 27 mmol) and that there were no such effects of taurine... Our study demonstrates that diuretic and natriuretic effects of the tested energy drink were largely mediated by caffeine.” (Riesenhuber A, and others).

**XVI - 76) Down’s syndrome worsening?** It is well known that the Down's syndrome has a genetic etiology, which weakens many tissues of the patient. As the caffeine also weakens nearly all tissues, we suspect that the caffeine worsens the Down's syndrome disturbs. We recommend to our few Down's syndrome patients to avoid the caffeine, but we have no control about the results.

**XVI - 77) Drug-related eosinophilia with systemic symptoms:** “We report the case of a 16-year-old boy with long-standing bipolar disorder who was chronically treated with aripiprazole and fluoxetine and developed Drug-related eosinophilia with systemic symptoms syndrome after ingestion of high doses of caffeine. His classic presentation with fever, morbilliform rash, lymphadenopathy, and visceral involvement, including leukocytosis, eosinophilia, and hepatitis, was consistent with this diagnosis. Furthermore, the patient's symptoms dramatically improved after corticosteroid therapy and discontinuation of all psychotropic medicaments.” (Mahapatra S, and others).

**XVI - 78) Duane syndrome:** “Duane's syndrome is a congenital rare type of strabismus most commonly characterized by the inability of the eye to move outwards.” (Wikipedia). We suspect that the Duane syndrome is caused by the caffeine drank by the pregnant mother, in addition to the genetic propensity of her embryo to this sickness. We have no proof about this.

**XVI - 79) Dystocia in low-risk nulliparous women:** “At Denmark... from a cohort of 2,810 low-risk nulliparas...Criteria for dystocia: cervical dilatation <2 cm over 4 h during labour's active phase, or no descent during 2 h (3 h with epidural) in the descending phase, or no progress for 1 h during the expulsive phase... Caffeine intake of 200-299 mg/day was associated with dystocia (OR 1.37)” (Kjaergaard H, and others).

**XVI - 80) Dystonias:** “In patients with paroxysmal non-kinesigenic dyskinesias, episodes of dystonia can be provoked by stress and also by methylxanthines (e.g. caffeine), which inhibit adenosine A(1)/A(2A) receptors.” (Nobrega J N, and others).

**XVI - 81) Edemas: In Legs, Belly, Buttocks, Bosom, Arms, Hands.** We found in our patients drinkers of caffeine and excessive water that it is common to have 0.5 to 3 kilograms (1 to 6 pounds) of water retention spread all over the body. Those patients over 90 kilograms of weight can retain until 4 kilograms of water. It resembles obesity, but it is not fat: it is edema, only water or inter-cellular fluids.

This water retention increases the belly, buttocks, bosom, arms, hands, and the weight; it is cold and it does not ache, and usually it causes leg's edema and varicose veins. A patient we had even could not close her swollen hands.

We have the impression that along the years, these chronic caffeinated edemas are replaced by fat tissue, but we are not sure about this.

This water retention caused by the caffeine plus water is remarkable, but it does not reach the big dimension obtained by the beer drinkers. Stopping the caffeine and the excessive water drinks, in one month the patient loses the excessive water retained, loses weight, reduces the belly, legs and all edemas, lightens and becomes healthier. It is not necessary any medicament. All patients enjoy it. Here is one patient:
Curing many sicknesses, caused by caffeine and excessive water, at a same time: We had a 78-year-old woman, white, housewife, two children. She was 1.67 meters tall (5 feet and 6 inches), weighing 73 kilograms (161 pounds). For many years, she drank daily 5,500 milliliter of water and much coffee. She complained of eyes sores, eyes redness, tearfulness, eyes itching, arterial hypertension, and her both legs presented knees aches, rheumatism, multiple big varicosities and edema. On ophthalmological exam, we found intraocular pressures of 20 and 20 mmHg, which are moderately high. Optic Nerves’ disks cups with 0.5/3/0/0 in both eyes and deep anterior chambers, which are physiologic. She was taking eight different medicaments daily, without success. We substituted all her medicaments by only Timolol Maleate 0.5% eye drops twice daily, restriction of her water drank and elimination of all caffeine.

After two months she returned all better, weighting only 71 kilograms (156 pounds) without any diet or medicament, walking better, without any ache, smaller varicosities and near absent legs' edemas. Her intraocular pressures show 18 and 16 mmHg right and left eyes, which is better than before.

This is an example of the signs and symptoms caused by the Ocular Hypertension Syndrome without glaucoma, and simultaneous many other diseases, all caused or worsened by the excessive drinks of water and caffeine. Stopping the vicious drinks, it is easy to cure all this, isn't it?

XVI - 82) Embryos malformations (birth defects): “Caffeine or theophylline alone (2.5-5.0 mg/egg) retarded growth in a dose-dependent fashion. Doses of 5.0 mg caffeine and theophylline produced beak malformations in 4.9% and 57.1% of embryos, respectively. Structural defects following co-administration of methylxanthines and beta-adrenomimetics were frequently observed in limbs (primarily lower limbs with predilection for left-sided oligodactaly) and beak... limb hematomas, hygromas in the nuchal region, and prominent generalized edema... concomitant administration of 2.5 mg caffeine and 1 microgram isoproterenol... produced at least one of the embryopathies listed above in 87.9% of treated embryos and frequently induced beak (24.2%) and lower limb defects (75.8%) in addition to nuchal hygromas (9.1%). Similar severe malformations were observed following administration of 3.8 mg theophylline with 1 microgram epinephrine. Embryos that died within 12-48 hours following drug insult demonstrated marked cardiac dilation, apparently due to congestive heart failure.” (Bruyere H J, and others).

“Caffeine was administered intraperitoneally to CD-1 mice on days 11 and 12 of pregnancy at doses of 80-250 mg/kg. A dose-related pattern of malformations was seen that included mainly cleft palate, limb malformations, and hematomas. Many of the limb malformations were examined in preparations stained for cartilage and bone and a number of unique structural arrangements were found. As in previous studies, an asymmetric response was seen, the left limbs being affected more often than the right. Transplacental passage of caffeine was also studied. Caffeine and many metabolites pass into the embryo and attain concentrations slightly below those in maternal plasma.” (Scott W J Jr).

XVI - 83) Endometriosis and tubal disease:

“The prevalence of minimal or mild endometriosis was higher in women age 25 years or older, in those who reported menarche at the age of 13 years [prevalence odds ratio (POR) = 1.63] or older (POR = 1.73), menstrual cycles of 27 days or less (POR = 1.63), or caffeine intake of 300 mg per day or more (POR = 1.33).” (Bérubé S, and others).

“A significant increase in the risk of infertility due to tubal disease or endometriosis was observed for the upper levels of caffeine intake, indicating a threshold effect. For tubal infertility, a relative risk of 1.5 (95% confidence interval (CI) 1.1-2.0) was found in women who consumed more than 7 g of caffeine per month as compared with those who consumed 3 g or less per month. For endometriosis, the relative risk was 1.9 (95% CI 1.2-2.9) in women who consumed 5.1-7 g/month and 1.6 (95% CI 1.1-2.4) in those with an intake of more than 7 g/month.”(Grodstein F, and others).

XVI - 84) Endothelial-dependent flow-mediated dilatation decline:
“We studied 17 healthy young adults (28.9±3.0 years old; nine men)... The endothelial performance was estimated by endothelium-dependent flow-mediated dilatation of the brachial artery before and 30, 60, 90 and 120 min after ingestion of a cup of caffeinated coffee (80 mg of caffeine) or the corresponding decaffeinated beverage in two separate sessions. Caffeinated coffee led to a decline of flow-mediated dilatation (7.78, 2.86, 2.12, 4.44 and 4.57% at baseline, 30, 60, 90 and 120 min respectively). This adverse effect was focused at 30 and 60 min. No significant effect on flow-mediated dilatation was found with the decaffeinated coffee session. In conclusion, coffee exerts an acute unfavorable effect on the endothelial function in healthy adults, lasting for at least 1 h after intake. This effect might be attributed to caffeine, given that decaffeinated coffee was not associated with any change in the endothelial performance.”(Papamichael C M, and others).

XVI - 85) Endothelial progenitor cells reduced: “Circulating Endothelial progenitor cells from migraine patients (with and without aura) showed reduced migratory capacity and increased cellular senescence.” “The circulating endothelial progenitor cell number is a surrogate biologic marker of vascular function, and diminished endothelial progenitor cell counts are associated with higher cardiovascular risk.”(Lee S T, and others).

“Patients with obstructive sleep apnea free of any other known cardiovascular risk factor show a reduced number of circulating endothelial progenitor cells and an increase in plasma vascular endothelial growth factor levels. These alterations may contribute to future endothelial dysfunction in these patients.”(de la Peña M, and others). Is this reduction of Endothelial progenitor cells caused by the excessive carbonic gas (CO2) and low oxygen (O2) in the blood of the patients with migraines and obstructive sleep apnea, or all these conditions were caused by the caffeine?

XVI - 86) Epileptic Seizures. “Benign” epilepsy. “Migraine-triggered seizures” are those seizures consequent to the Cerebrospinal Fluid Hypertension Syndrome that happen together with the respective migraines. Caffeine reduce the anticonvulsant efficacy of a variety of antiepileptic drugs and it also increase the seizure frequency in patients with epilepsy. “The presence of a neurophysiological continuum between migrainous aura and epileptic seizure is supported by this observation of "migralepsy".” (Barré M, and others).

“Caffeine alone is used to enhance seizure duration in electroconvulsive therapy.” (Sawynok J).

Studying genetic epilepsy-prone rats, De Sarro A and others, found: “3-isobutyl-1-methylxanthine, theophylline (1,3-dimethylxanthine) and caffeine (1,3,7-trimethylxanthine) induced an epileptogenic pattern,… clonic convulsion and they appeared to be the most potent xanthines among those studied.” “Methylxanthines can cause seizures in patients without known underlying epilepsy. Theophylline is also known to be an added risk factor for seizure exacerbation in patients with epilepsy. The proconvulsant activity of methylxanthines can best be explained by their antagonizing the brain's own anticonvulsant adenosine.” (Boison D).

Does your epileptic patients drink coffee or caffeinated colas? Did you ask them about this?

XVI - 87) Epinephrine increase: On “47 healthy, nonsmoking, habitual coffee drinkers...Caffeine administration significantly rise of the average ambulatory blood pressure during the workday and evening by 4/3 mm Hg and reduced average heart rate by 2 bpm. Caffeine also increased by 32% the levels of free epinephrine excreted during the workday and the evening. In addition, caffeine amplified the increases in blood pressure and heart rate associated with higher levels of self-reported stress during the activities of the day. Effects were undiminished through the evening until bedtime.”. (Lane J D, and others).

XVI - 88) Erysipelas: These bacterial infections are facilitated by the lymphatic edemas. As caffeine, wine and beer cause lymphatic edemas, they also facilitate the occurrence of erysipelas.

XVI - 89) Esophageal and stomach cancer: “Mononitrosocaffeidine and dinitrosocaffeidine are new N-nitroso compounds obtained from in vitro nitrosation of caffeidine, a hydrolysis product of caffeine
present in a typically made and widely consumed tea from Kashmir (India), a high incidence area of esophageal and stomach cancer. In BD-IX rats... All three dose groups of Mononitrosocaffeidine treated rats showed localization of tumours in nasal cavity (93.9-100% of all malignant tumours). The tumours were histologically diagnosed as neuroepitheliomas of the olfactory epithelium (neuroblastoma of the bulb of olfactorii) and squamous cell carcinoma of the nasal cavity in the ratio of 3:1. No tumours of the nasal cavity were observed in the untreated controls. Dinitrosocaffeidine, in contrast, induced squamous cell carcinoma of forestomach in 100% animals at low and high doses, of which nearly half the tumours metastasized predominantly into the peritoneum. No forestomach tumours were seen in the untreated controls. The data presented here clearly show the potential for induction of malignant tumours and distinct organ-specificity by Mononitrosocaffeidine and dinitrosocaffeidine in rats, and support the postulate that a chronic exposure to these compounds may provide a carcinogenic risk for high incidence of gastrointestinal cancers in Kashmir.” (Ivankovic S, and others).

XVI - 90) Essential Tremor, Muscle twitchin and caffeine intoxication: “Our data indicate that endogenous adenosine mechanisms are active in tremor, thus supporting the clinical notion that caffeine, a nonselective adenosine receptor antagonist, can trigger or exacerbate essential tremor.” (Bekar L, and others).

XVI - 91) Excitement: It is caused by the caffeine intoxication, mainly in children.


XVI - 93) Fertility reduced. Lower fecundability. Infertility:

“104 healthy women who had been attempting to become pregnant for three months were interviewed... Women who consumed more than the equivalent of one cup of coffee per day were half as likely to become pregnant, per cycle, as women who drank less. A dose-response effect was present... When the data were treated by the life table approach, 6% of the women were still not pregnant in the low consumption group by cycle 13, compared to 28% in the high consumption group, a relative risk of 4.7. The mechanism of action of caffeine on fecundability is unknown.” (Wilcox A, and others).

“Fecundability has been defined as the ability to achieve a recognized pregnancy... Couples who were 20 to 35 years old, lived with a partner, and had no previous reproductive experience... In all, 1596 cycles and 423 couples were included in the analyses... Nonsmoking women who consumed 300 to 700 mg/d caffeine had a fecundability odds-ratio of 0.88, whereas women with a higher caffeine intake had a fecundability odds-ratio = 0.63... No dose-response relationship was found among smokers. Among males, the same decline in point estimates of the fecundability odds-ratio was present. Smoking women whose only source of caffeine was coffee (>300 mg/d) had a reduced fecundability odds-ratio = 0.34... An interaction between caffeine and smoking was biologically plausible, and the lack of effect among smokers may be due to faster metabolism of caffeine... Nonsmoking women who wish to achieve a pregnancy might benefit from a reduced caffeine intake.” (Jensen T K, and others).

“A significant increase in the risk of infertility due to tubal disease or endometriosis was observed for the upper levels of caffeine intake, indicating a threshold effect. For tubal infertility, a relative risk of 1.5 was found in women who consumed more than 7 g of caffeine per month as compared with those who consumed 3 g or less per month. For endometriosis, the relative risk was 1.9 in women who consumed 5.1-7 g/month and 1.6 in those with an intake of more than 7 g/month.” (Grodstein F, and others).

XVI - 94) Fetal brain development disturbs: “Our data revealed that caffeine transitorily affect synaptic proteins during fetal brain development. The increased number of NeuN-stained nuclei by prenatal caffeine suggests a possible acceleration of the telencephalon maturation. Although some modifications in the synaptic proteins were transient, our data suggest that caffeine even in lower doses may alter the fetal brain development.” (Mioranzza S and others).
XVI - 95) Fetus of mice abnormalities:

“Even most commonly consumed beverages like tea, coffee, chocolate and cocoa contain methylxan- thines, biogenic amines and polyphenols, among them catechins, that exhibit significant biological ac- tivity and might profoundly affect the organism homeostasis. We have previously shown that 400 mg of bitter chocolate or 6 mg of theobromine added to the daily diet of pregnant and afterwards lactat- ing mice affected embryonic angiogenesis and caused bone mineralization disturbances as well as limb shortening in 4-weeks old offspring. The aim of the present study was the morphometric and functional evaluation of kidneys in the 4-weeks old progeny mice fed according to the protocol men- tioned above. Progeny from the mice fed chocolate presented considerable morphometric abnormalities in the kidney structure, with the lower number of glomeruli per mm2 and their increased diameter. Moreover, higher serum creatinine concentration was observed in that group of offspring.” (Patera J, and others).


“A high caffeine intake in the third trimester may be a risk factor for fetal growth retardation, in par- ticular if the fetus is a boy.” (Vik T, and others).

“Since caffeine crosses the placenta and is metabolized by the fetus very slowly, the fetus may be at risk of exposure to significant amounts of caffeine from its mother. In animal studies, high doses of caff- feine cause skeletal birth defects, retarded fetal growth, reduced birth weight, and increased stillbirths while lower doses equivalent to only two cups coffee/day may cause slowed bone growth. Subtle neurobehavioral effects persisting into adulthood have been reported in rats exposed to modest doses of caffeine. Caffeine consumed by males prior to mating can also produce significant fetal growth retarda- tion.”

“Some population studies have shown that high levels of caffeine intake by pregnant women are associated with a higher than normal incidence of prematurity, lower birth weights, and reduced head cir- cumference. Based on available data, the Food and Drug Administration has advised pregnant women to avoid all caffeine during pregnancy.” (Andrews University Nutrition Department).

“Results from this study support previously published results from this group of monkeys indicating that caffeine consumption during pregnancy can alter infant somatic development.” (Gilbert S G, and Rice D C).

XVI - 97) Fibrocystic breast disease and breast pain:

“138 patients with fibrocystic breast disease... and with breast pain... were counseled to abstain from or reduce caffeine consumption. The results at the end of one year indicated that compliance was high, with 113 patients (81.9 percent) reducing their caffeine intake substantially and, of those, 69 (61 per- cent) reporting a decrease or absence of breast pain.” (Russell L C).

XVI - 98) Flushing of the face: It is caused by the caffeine intoxication, besides other etiologies.

XVI - 99) Fractures in the elderly: “Due to age-associated bone losses, all elderly are prone to osteo- porosis, which often leads to fractures. Fractures frequently result in dependency and institutionaliza- tion, as well as physical deformities that may lead to respiratory and cardiovascular problems. Thus care of the elderly focuses primarily on lifestyle modification and increased dietary intake of calcium and vitamin D; decreased intake of caffeine, phosphates, and alcohol;...” (O'Connell M B.)

“Caffeine increases urinary calcium output and has been implicated as a risk factor for osteoporosis. Fracture risk ...increased with increasing caffeine intake. Overall, intake of greater than two cups of coffee per day (four cups of tea) increased the risk of fracture.” (Kiel D P, and others).
XVI - 100) Frog larvae (tadpoles) *Xenopus laevis* teratogenesis: “Caffeine interfered with development of *Xenopus* larvae at a concentration of 100 mg/L and above in a concentration-dependent manner... shortened body with wavy fins... abnormal body flexure and edema in the fin... severe damage in the myotome and neural tube,... the epidermal tissue was also affected. Myoblasts showed wide intercellular spaces, and their cytoplasm lost uniform staining... myofibril disorganization and degeneration, and mitochondrial alterations... cells at the dorsal part of the neural tube showed wide intercellular spaces and some of them were segregated to the peripheral region... vacuole-like structures of various sizes appeared in the white matter. The outer layer of epithelial cells in the epidermis were vacuolated and swollen... caffeine appeared to cause a disturbance of intracellular calcium regulation, by releasing calcium ions from the sarcoplasmic reticulum, and the mitochondrial changes observed in myotomal cells.” (Sakamoto M K, and others).

XVI - 101) Fuchs’ endothelial dystrophy? “The mean (SD) number of keratocytes in the anterior 10% of the stroma of corneas with Fuchs dystrophy (682 [274] cells) was less than in the control corneas measured using histology (1858 [404] cells) and confocal microscopy (1481 [397] cells). Keratocytes are depleted by 54% to 63% in the anterior 10% of the stroma of corneas that require penetrating keratoplasty for Fuchs dystrophy.” (Hecker L A, and others).

As caffeine is the main known etiology to the keratocytes killing, we suspect that caffeine in the fetus is the main etiology of the Fucks' endothelial dystrophy.

XVI - 102) Gallstone disease: Between 174 cases of gallstones in middle-aged Japanese men, “Adjusted odds ratios of known gallstone disease were 1.7 for coffee consumption of five cups or more per day vs. no consumption and 2.2 for caffeine intake of 300 mg/day or more vs. less than 100 mg/day. The consumption of green-tea showed no material association with either unknown gallstones or known gallstone disease.” (Ishizuk H, and others).

XVI - 103) Gastric polyps and many other sicknesses:

_We had a retired Parapsychologist and children book writer, one child, 60 year-old, searching for new eye-glasses for near vision. She is white, with almost all great-grand parents Portuguese and German and only one Indian. She weights 67 kilograms (148 pounds) and has 1.64 meter tall (5 feet and 4 inches). Besides the need of eye-glasses, she complained of four decades of sufferings with frontal headaches at near vision, and occipital headaches at awakening, left facial paresis when she was 45 year-old, renal stones which were surgically removed, eyes burning, dry cough for years, asthma, tearing, and 8 gastric polyps which were many times surgically removed. From the facial paresis it remained an upper left eyelid ptosis. Once, she had so strong respiratory allergic reaction that she had glottis edema and nearly died without air._

_Since her teen years, she was a daily drinker of 500 to 1,000 milliliters (16 to 32 fluid ounces) of strong coffee and some daily guaraná, and more some wine and beer at weekends. Her ophthalmological examination now only shows the hyperopia. Her Optic nerves are normal, which means that all those sicknesses were caused only by the caffeine and other drinks intoxicating her nerves, stomach, lungs, besides removing calcium from her bones and causing the renal calculus. This is an evident caffeine poisoning enduring 40 years!_

_Although along those four decades, more than 20 doctors examined and medicated her, no one told her to stop the caffeine and the other drinks. Which medicine is that?

XVI - 104) Gastritis. Coffee increases the gastric secretion, causing or worsening the gastritis. Decaffeinated coffee has weaker effect, but also does the same. So, the gastritis is caused by the caffeine and by other products from coffee, besides caffeine.
XVI - 105) Gastro-oesophageal reflux: “Patients with reflux disease often complain of heartburn after ingestion of coffee. Induction of gastro-oesophageal reflux has been demonstrated by pH-metry following the intake of coffee in healthy volunteers. The amount of gastro-oesophageal reflux induced by the intake of regular coffee in patients with reflux disease can be reduce by the decaffeination of coffee.” (Pehl C, and others)

“Thirty babies were tested for gastroesophageal reflux before and during caffeine treatment. Eighteen ... while undergoing theophylline treatment. Episodes of gastroesophageal reflux increased significantly in about 50% of the group treated with caffeine and in 66% of the group treated with theophylline... An increase was noted for the number of episodes of gastroesophageal reflux in 24 hours (from 5.3 to 17.1 in the caffeine group and from 5.3 to 24.3 in the theophylline group) and for the time pH was less than 4 (from 0.87% to 6% in the caffeine group and up to 13% in the theophylline group). Because gastroesophageal reflux is another known risk factor for sudden infant death syndrome, the administration of xanthine derivatives in babies at risk for sudden infant death syndrome should be carefully considered in each case.” (Vandenplas Y, and others).

XVI - 106) Gay personality: We observed that our patients with Gay personality were more sensitive to the many caffeine's pathological effects. The gay patient suffer more frequently, with more intensity and precocity with anyone of the caffeine's sicknesses, even when he uses few caffeine. This is an extreme sensitivity to the caffeine, for life long! We suspect that the Gay personality is caused by the caffeine (or theobromine) drank by the mother acting on her genetic very sensible fetus brain.

Other caffeine's personalities, as the “Type A” personality and the “Antisocial” personality disorder need the daily caffeine drinks to keep these personalities. Withdrawing the caffeine, they usually become common personalities, with few exceptions. As the Gay personality is made during the fetus' brain formation, it is congenital and permanent. We did not make statistics about them.

XVI - 107) Genetic congenital malformations expression and genetic propensity or susceptibility to any caffeine sickness. There are two kinds of genetic disturbs related with the caffeine intoxication:

A- A genetic determination to a specific disease, as Down syndrome or Coeliac disease. The genetic lesion in the spermatozoa, the ovule, the egg or the zygote, can be caused by the caffeine disturbing the cellular division. It is enough one day of caffeine intoxicating the mother to cause this genetic lesion. The patient shall present the sickness, whether he receives or not more caffeine.

B- A genetic general propensity or susceptibility to suffer anyone of the hundreds caffeine's sicknesses, caused by the patient's enzymatic caffeine depuration. It is caused by a general sensibility to the caffeine, in addition to thousands daily repeated caffeine intoxication.

Many patients present these both kinds of genetic caffeine's intoxicating effects. The genetic congenital malformation presents with variable expression (penetrance) in each patient. We found that between our patients with congenital malformation, those who were most affected were also more sensible to the caffeine intoxicating effects, and whose mothers were also drinkers of caffeine when pregnant of them. The defective genetic enables the malformation, but it is the daily caffeine which causes its increased expression. In other words, the inherited defective genotype in addition to the daily caffeine worsen the congenital sickness.

XVI - 108) Genital Herpes relapsing: We had a white 61 year-old woman, 1.65 meter tall, weighing 64 kilograms, drinker of caffeinated coffee 100 milliliters (3 fluid ounces), and guaraná 250 milliliters (half pint) daily. Besides the migraines, she suffered more than 30 years with relapsing of her Genital Herpes each two to three months, precisely one week after each time she became stressed by any motive. Two years after stopping all caffeinated beverages, she remembered and told us that since that time, she did not have any relapsing of her Genital Herpes, although she had many stressing occasions. She referred that this was the longer time she was without any Genital Herpes relapsing. Was this patient only a coincidence? We did not clarify this doubt.
XVI - 109) Genital Hyperesthesia. The patient with allodynia can present many assorted and strange aching symptoms. Here is one, between many others: “We report both a female and a male patient in whom caffeine intake was associated with genital hyperesthesia.” (Markos A R).

XVI - 110) Gestational Diabetes Mellitus worsening: “In the gestational diabetes mellitus group, glucose area under the curve was greater, C-peptide area under the curve was greater, and insulin sensitivity index was lower (18%) after caffeine than after placebo. (Robinson L E, and others).

XVI - 111) Glaucomatous inherited tendency. Weakening of the Optic nerve disc during the fetus formation: As the caffeine weakens the fetus’ cornea, probably it weakens also the Optic nerve’s lamina cribosa, and this causes an increased tendency to the glaucomatous lesion of the Optic nerve. “Central corneal thickness was found to be a powerful predictor for the development of primary open-angle glaucoma.” (Gordon M O, and others).

XVI - 112) Glottis edema? Angioneurotic hereditary edema: It is inherited as an autosomal dominant trait. Its main etiology is a genetic absence of the activity of C1 esterase inhibitor (of the complement system) in the patient's serum. Its main symptom is an acute swelling in any part of the body. It is a very rare condition in an ophthalmological office like mine. The few patients who referred this eventual condition, and survived to tell us this, all were plenty with caffeine, and they presented some signs and symptoms of the caffeine intoxication. As the caffeine also cause edemas everywhere, we teach them to stop the caffeine, and until we know, they did not have other bouts of glottis edema or other edemas. But how much time is it necessary without relapsing the glottis edema to say that the patient is cured? Evidently, whether the patient drinks the caffeine again, he can relapse his glottis edema anytime, and this time it can be fatal.

“A 50-year-old man with no relevant medical history emergently presented with acute angioedema of the lower lip, without urticaria. The inflammation spread to other facial structures but gradually dissipated after subcutaneous epinephrine was administered... Five days later... the angioedema recurred, and the patient acted to reverse the attack. Instant coffee was identified as the trigger.”(Larkin K J).

XVI - 113) Graves’ disease: As every smoker knows, smoking is a strong stimulus to drink caffeine, and caffeine is a stress-maker.

“Smoking has been implicated in the worsening of Graves’ ophthalmopathy”. “Stress can be a factor for thyroid autoimmunity. Acute stress-induced immunosuppression may be followed by immune system hyperactivity, which could precipitate autoimmune thyroid disease.” (Yeung, S C J, and others).

We suppose that the caffeine causes the excessive stress, which Dr. Yeung says that causes the thyroid autoimmunity sickness, and also that caffeine is a toxin to the thyroid cells.

XVI - 114) Hallucinations and Delirium: “The drug is a decided cerebral excitant, stimulating the mental function, occasioning wakefulness, and under large doses producing hallucinations and delirium. Caffeine renders the reasoning and imaginative powers more acute, enabling the person to perform increased and prolonged mental work. Rarely, the ability to take in ideas is increased, and there is a heightened power of association of ideas.” (Butler G F).

XVI - 115) Heartburn: “Methylxanthines... are able to slightly reduce the tone of the lower esophageal sphincter. This is of little concern in the normal individual, but in patients with a reduced initial tone it might lead to heartburn.” (Fredholm B B).

XVI - 116) Heart mitochondria lesions in newborn rats: “Litters of rats were combined by birth. Dams with pups... received the diet supplemented with caffeine (4 mg/100 g body weight).... Transmission electron microscopy revealed swollen, disrupted, degenerating mitochondria and intracellular edema in the hearts of rats in the caffeine groups... Plasma copper concentration was significantly decreased. These results indicate that early exposure to caffeine through maternal milk adversely affects cardiac mitochondria of rat pups and may be associated with decreased plasma copper levels.”
XVI - 117) Heart rate increased. Arterial hypertension. Tachycardia. Extrasystoles: “Examining changes in cardiovascular function after completion of fatiguing bench-press and leg-press exercise after Caffeine or placebo ingestion…Results showed significant increases in heart rate (+ 10 beats/min), systolic blood pressure (+ 8-10 mmHg), and rate-pressure product with acute Caffeine ingestion versus placebo.”(Astorino T A, and others).

The patients can feel this as cardiac Palpitations.

“Caffeine had no effects on Heart rate variability or ventricular extrasystoles in young adults but aggravated those in obese middle-aged subjects.”(Nakanishi T, and Yoshimura M).

XVI - 118) Heel spur aches (pain).

The heel spur can ache too much with caffeine, but the aches disappear after one month without caffeine:

Heel Spur aches, Asthma and caffeine: We had a white 61-year-old patient, retired librarian, no child, 1.65 meters (5 feet and 5 inches) tall, and 65 Kilograms (143 pounds) of weight. She never eats red meats. She was user of coffee 200 milliliter (7 fluid ounces) and guaraná 300 milliliter (10 fluid ounces) daily. “They are tasty, aren’t they?” She presented asthma crisis around once a week, triggered by many stimuli, repeating during some 40 years. She used to walk daily 5 to 10 kilometers only for her health, using sportive shoes. She also practiced swimming and physical exercises five times a week, only for physical fitness.

Last year she presented with strong aches at her left foot, and was diagnosed with heel spur. The aches became so intense that she could not stand up with her usual sandals, and needed to search orthopedic shoes and special insoles just to walk. She tried acupuncture, physiotherapy, homeopathy and other medicaments, without success.

After more than 6 months of unbearable aches, she decided to stop all caffeine. She suffered one week with head and diffuse body’s aches from the withdrawal of caffeine. After that, the heel spur remains at the same size and place, but the aches almost disappeared, and the asthma crisis became weaker and rare. Now, after 6 months without caffeine, she did not have any asthma crisis, her old asthma medicaments are useless, she no longer needs any orthopedic shoe and she is walking and exercising again. The heel spur is still there, but it does not ache any more. It is good, isn’t it?

XVI - 119) Hip fracture risk increased: On “100 case subjects (57 women and 43 men) admitted with a first hip fracture into one of three hospitals across New Delhi...Tea drinkers have a higher risk of hip fracture (OR 22.8).” (Jha R M, and others).

XVI - 120) Homocysteine level increase in the blood: “We found a significant increase level of plasma homocysteine from 9.6 to 11.4 micromol/l in persons drinking natural, unfiltered coffee.” (Bukowska H, and others). Homocysteine is a harmful amino-acid, neurotoxic, associated with an increased risk of cardiovascular, neurological and psychiatric diseases, including Alzheimer, dementia and open-angle glaucoma.

XVI - 121) Hot flashes: “Postmenopausal women experiencing hot flashes in whom estrogen replacement is contraindicated have alternatives available to them; ...Patients should be told that regular physical activity, a balanced diet, avoidance of alcohol and caffeine, and stress reduction may be of additional help in decreasing vasomotor flushing.” (Lucero M A and McCloskey W W).

XVI - 122) Huntington's chorea. (Huntington's disease): “...in 80 Huntington's disease patients...caffeine consumption greater than 190 mg/day was significantly associated with an earlier age at onset. These data support an association between habitual caffeine intake and age at onset in Huntington's disease (Huntington's chorea) patients.” (Simonin C and 26 others).
XVI - 123) Hyperthermia: “Administration of theophylline and caffeine produced a dose-dependent rise in rectal temperature at ambient temperatures of 8, 22 and 30 degrees C. The hyperthermia in response to either xanthine was brought about by an increase in metabolic heat production. In addition, their administration produced behavioral excitation, cutaneous vasodilation (as estimated by an increase in the foot and tail skin temperatures) and diuresis. The data suggest that these xanthines elicit a central activation of both adrenergic and dopaminergic receptors via release of endogenous catecholamines that leads to behavioral excitation and hyperthermia in rats.” (Lin M T, and others).

XVI - 124) Hyperthyroidism. Hypothyroidism. We had many patients that besides other sicknesses of the caffeine intoxication, presented hyperthyroidism or hypothyroidism. They were being medicated for these thyroid disturbances, but although they were taking caffeine or theobromine daily, the physicians forgot to prescribe its eschew. We conclude that the caffeine is a toxin to the thyroid.

XVI - 125) Hypochondriasis: “Patients with hypochondriasis should eat 3 meals per day to feel as healthy as possible. They should avoid substances that adversely affect mood, exacerbate anxiety symptoms, or reduce the quality of sleep (eg, caffeine, alcohol, nicotine).” (Xiong G L, and Bourgeois J A).

XVI - 126) Inflammatory markers increased. Higher adiponectin:
“Compared with coffee nondrinkers, men who consumed >200 milliliters of coffee/day had:
- 50% higher interleukin 6,
- 30% higher C-reactive protein,
- 12% higher serum amyloid-A,
- 28% higher tumor necrosis factor A concentrations and
- 3% higher white blood cell counts.”
“Women who consumed >200 milliliters of coffee/day had:
- 54% higher interleukin 6,
- 38% higher C-reactive protein,
- 28% higher serum amyloid-A,
- 28% higher tumor necrosis factor A concentrations and
- 4% higher white blood cell counts than did coffee nondrinkers.”
“Conclusions: A relation exists between moderate-to-high coffee consumption and increased inflammation process. This relation could explain, in part, the effect of increased coffee intake on the cardiovascular system.” (Zampelas A, and others).

XVI - 127) Insomnia. Sleep disturbance.
“(1) Habitual caffeine consumption is associated with reduced sleep quality in self-rated caffeine-sensitive individuals, but not in caffeine-insensitive individuals;
(2) The distribution of distinct c.1083T>C genotypes of the adenosine A2A receptor gene (ADORA2A) differs between caffeine-sensitive and -insensitive adults; and
(3) The ADORA2A c.1083T>C genotype determines how closely the caffeine-induced changes in brain electrical activity during sleep resemble the alterations observed in patients with insomnia.” (Rétey J V, and others).

XVI - 128) Insulin sensitivity reduced. Insulin resistance: “Insulin levels were significantly higher (by 1.80 microU/ml) after caffeine intake than after placebo. The homeostasis model assessment index of insulin sensitivity was reduced by 35% by caffeine... Daily caffeine intake reduces insulin sensitivity; the effect persists for at least a week and is evident up to 12 hours after administration.” (MacKenzie T, and others).
“Caffeinated (5 mg/kg) coffee with the high glycemic index meal (providing 75 g of carbohydrate) resulted in 147%, 29%, and 40% greater areas under the curve for glucose, insulin, and C-peptide, respectively, compared with the values for decaffeinated coffee. Similarly, with the low glycemic index treatment, caffeinated coffee elicited 216%, 44%, and 36% greater areas under the curve for glucose, insulin, and C-peptide, respectively. Insulin sensitivity was significantly reduced (40%) with the high glycemic index treatment after caffeinated coffee was ingested compared with decaffeinated coffee; with the low glycemic index treatment, caffeinated coffee ingestion resulted in a 29% decrease in insulin sensitivity. The ingestion of caffeinated coffee with either a high or low glycemic index meal significantly impairs acute blood glucose management and insulin sensitivity compared with ingestion of decaffeinated coffee.” (Moisey L L, and others).

“During pregnancy...from 251 fasting subjects at mean gestational age of 20.3 ± 2.0 weeks...Caffeine concentrations in the upper two quartiles (> 266 ng/ml) were associated with threefold higher odds of having higher insulin resistance (third quartile odds ratio [OR], 3.02; ... and fourth quartile OR, 2.95). Paraxanthine concentrations in the upper quartile (> 392 ng/ml) were also associated with threefold higher odds of having higher insulin resistance (OR, 3.04). Both high caffeine and paraxanthine concentrations were associated with insulin resistance, but slow versus fast metabolism did not make an important difference.” (Laughon S K and others).

XVI - 129) Interstitial cystitis/Painful bladder syndrome: “Stimulatory foods, anorectal disease and caffeine beverages are potential risk factors for interstitial cystitis/painful bladder syndrome.” (Li G Z, and others).

XVI - 130) Interstitial nephritis chronic and other sicknesses consequent to analgesics (with caffeine?): “In a group of 274 urological patients... The reason for chronic consumption of analgesics is mainly headache... After an average latency period of 20 years, renal (papillary necrosis, chronic interstitial nephritis) and extrarenal manifestations appeared. Despite slow progression and low gradient symptoms, severe alterations could be determined at the first examination. In the last decade, an increase of transitional cell carcinoma induced by analgesics has been observed. 22 of our patients presented a tumor of the urothelium (i.e. 8%). A further increase of these specific cases is expected.” (Por-páczy P).

XVI - 131) Irritability: It is caused by the caffeine intoxication, besides other etiologies.

XVI - 132) Irritable bowel syndrome (Ulcerative Colitis) (Chronic diarrhea): It occurs together with the Ocular and Cerebrospinal Fluids Hypertension Syndromes, until advanced Glaucoma. All patients we examined were consequent to the caffeine. Here is one patient:
- Irritable Bowel Syndrome, Migraines, Cerebrospinal and Ocular Hypertension caused by caffeine: We had a 40-year-old Mulatta, laboratory technician, no child. She was 1.62 meters (5 feet and 4 inches) tall, 55 kilograms (121 pounds) of weight. She was suffering from strong Migraines for the last 25 years, worsening with menses. From 3 years until now, she was suffering with wakening headaches on her frontal and occipital areas. She suffered also with photophobia so intense that she needed to use dark glasses during all the day, until in her working room. Some nights she wakes at 3:00 o’clock at morning suffering with intense headaches. She also suffered all those years of excessive tears, nausea and retching, buzzing, eyelids edemas at morning and eyes redness. She was suffering from years of Irritable Bowel Syndrome (Colitis), already examined and medicated without any success. She used to drink daily coffee 200 milliliters (7 fluid ounces), Guarana 300 milliliters (10 fluid ounces), and colas 600 milliliters (20 fluid ounces). For medicate her headaches, she used caffeinated analgesics. Once 2 years ago, she suffered a spontaneous sub-conjunctival hemorrhage at her right eye. On the ophthalmological exam, we found no need of eyeglasses, and intraocular pressures of 24 mmHg in both eyes, which is an intraocular high-tension. Her both Anterior chambers were deep, physiologic. Her both Optic Nerves’ disks on direct ophthalmoscopy show 0.5/1/0/0.5 (cup diameter/cup depth/Lamina Cribosa’s pores visibility/borders edema), which is the sign of the Cerebrospinal Fluid Hypertension. We prescribed her to stop all caffeine, as in beverages, as in medicaments. We also prescribed her eye drops of Timolol Maleate 0.5% twice daily, in order to lower her intraocular pressures.

After one month, she returned telling us that she suffered 10 days of intense headaches caused by the caffeine withdrawal. After that, she became free from all the aches and the other symptoms, including became free from the colitis without any other medicament, for the first time in many years. Her Optic Nerve’s disks show only 0,5/1/0.25 in both eyes. Her intraocular pressures show 20 mmHg in both eyes, which made us to increase her eye drops. She was grateful from the treatment.

Here we see the 25 years of sufferings caused by the simultaneous Ocular and Cerebrospinal Fluid Hypertension, occurring in the same eyes, on the same days, but at different hours. All these sufferings, including the colitis, were caused by her inherited susceptibility for caffeine, added by taking caffeine in coffee, soft drinks and medicaments. These were so long-sufferings, and so easy to cure when she knew how to do that.

At Scotland, “Eighty-one ulcerative colitis patients were recruited at all stages of the disease process. Caffeine also has anti-thiamin properties and decaffeinated coffee was associated with a better clinical state than the caffeine containing version.” (Magee E A, and others).

XVI - 133) Keratoconus. Fetuses' corneal weakening: “Excessive gestational caffeine intake has been shown histopathologically to have some teratogenic effects on newborn rat cornea (vacuolated endothelial cells with proliferation, hyperchromasia, polymorphism, endothelial cell agenesia, increased stromal mitotic activity and focal increase in corneal thickness with widely separated corneal lamellae).” (Evereklioglu C, and others).

Caffeine (3.5 mg/egg) was administered to chicken embryos: “In experimental groups reduction of corneal thickness, thickening of corneal epithelium and corneal endothelium as well as Bowman's and Descemet's membranes, decrease of thickness of corneal stroma in comparison with the control group have been observed. Caffeine causes thickness changes of all layers and decreases the total thickness of a developing cornea.” (Kajuwa-Hadrys M, and others).

Probably the keratoconus occurs when the patient have simultaneously:
A- Inherited (genetic) improper caffeine detoxification, mainly by his keratocytes.
B- Her mother drank caffeine during the pregnancy and weakened her baby’s cornea, mainly damaging the corneal keratocytes and stroma. Possibly the caffeine gestational intoxication also caused imperfections in the fetus corneal Bowman's membrane, which facilitate the caffeine penetration in his stroma.
C- The child also drank daily caffeine, for years along, and without the protection of a healthy Bowman’s membrane, the caffeine passed from his tears to his corneal stroma, where it progressively killed his keratocytes and weakened his corneal lamellae.
D- The progressively weakened corneal stroma, with or without its thinning, one day can not stand the
intraocular physiologic pressure, it bulges and results in the keratoconus.

E- The chronic eyes rubbing, tearfulness, photophobia, etc. presented by the keratoconus patients are the signs and symptoms of his corneas being damaged by the caffeine. They are not the cause of the keratoconus.

F- Even a healthy transplanted cornea, in an eye which had previously a keratoconus, can be damaged and become a new keratoconus. (Bourges J L, and others). This new corneal damage is caused by the caffeine that the patient is drinking now.

Conclusion: The keratoconus is caused by the caffeine poisoning the cornea in a patient who genetically cannot properly detoxify it.

As caffeine also increases the atopy, this explains the higher incidence of both disturbs together.

As caffeine causes so the pseudoexfoliation syndrome so the thinner corneas, they can occur simultaneously in older people, both caused by the “Turkish coffee or Java coffee”:

In Aydin, Turkey, “551 consecutive patients undergoing preoperative examinations for cataract surgery...Forty-eight pseudoexfoliative patients (48 eyes; 19 with glaucoma, 29 without glaucoma)...Mean central corneal thickness was significantly thinner in all pseudoexfoliative and nonglaucomatous pseudoexfoliative (pseudoexfoliation syndrome) eyes.” (Ozcura F, and others).

Lax eyelid syndrome is the association of keratoconus with papillary conjunctivitis and dry eyes. All these sicknesses are caused by the caffeine. Do you want to drink a coffee now?

New-born with blepharitis and caffeine. The Keratoconus beginning: The younger patient with “blepharitis” we had was a 22-days-old girl, otherwise healthy, who was presenting bilateral blepharitis and continuously rubbing her both eyes since she was only 10-days-old. She was only breast-feeding, and her mother drank 600 milliliter (20 fluid ounces) of pure strong coffee daily, and the little girl was consequently caffeinated by her mother’s milk. We recommended the mother to stop the coffee drinks, and after one month the baby came for another examination all better from the blepharitis, all happy and without any eyes rubbing.

We expect that the mother, knowing the caffeine prohibition that we taught her, teaches this to the baby. Without new doses of caffeine, this initial keratic lesion which caused the baby's eyes rubbing, perhaps will not be able to cause the future keratoconus.

XVI - 134) Killing coyote (Canis latrans) (Prairie wolf), Dog, Red fox (Vulpes vulpes), European badger (Meles meles): Caffeine and Theobromine are poisons.

![Theobromine](image)

Theobromine

- “Theobromine, caffeine, and theophylline combined in the ratios observed in tea and chocolate were ingested by coyotes… the identification of a 5:1 theobromine/caffeine mixture as a promising coyote toxicant. This mixture was then administered to coyotes... Mortality occurred in every coyote that ingested any portion...” (Johnston J J).

- “Cacao bean shells contain potentially toxic quantities of theobromine, a xanthine compound similar in effects to caffeine and theophylline. A dog, which ingested a lethal quantity of garden mulch made from cacao bean shells, developed severe convulsions and died 17 hours later. Analysis of the stomach contents and the ingested cacao bean shells revealed the presence of lethal amounts of theobromine.” (Drolet R, and others).
“A red fox (Vulpes vulpes) and a European badger (Meles meles) were found dead on a golf-course in October 1997 near Stockholm (Sweden). At necropsy, both animals were obese and the main finding was acute circulatory collapse. Theobromine intoxication was suspected as chocolate waste was available at a nearby farm and no other cause of death could be detected… Theobromine and caffeine were detected in gastric contents and theobromine was identified in the liver samples from both animals.” (Jansson D S, ad others).

**XVI - 135) Killing Rat, Guinea Pig, Woman, Child, Human. Caffeine is a poison that can kill:**

<table>
<thead>
<tr>
<th></th>
<th>Caffeine = Lethal Dose 50 (LD50) or Lowest Published Lethal Dose (LDLO)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral rat</td>
<td>LD50 192 mg/kg</td>
</tr>
<tr>
<td>Intravenous rat</td>
<td>LD50 105 mg/kg</td>
</tr>
<tr>
<td>Subcutaneous rat</td>
<td>LD50 170 mg/kg</td>
</tr>
<tr>
<td>Intraperitoneal rat</td>
<td>LD50 260 mg/kg</td>
</tr>
<tr>
<td>Intraperitoneal guinea pig</td>
<td>LD50 220 mg/kg</td>
</tr>
<tr>
<td>Intravenous woman</td>
<td>LD50 57 mg/kg</td>
</tr>
<tr>
<td>Oral child</td>
<td>LD50 320 mg/kg</td>
</tr>
<tr>
<td>Oral human</td>
<td>LD50 192 mg/kg</td>
</tr>
</tbody>
</table>

Modified from: Oxford University. **Material Safety Data Sheet**

**XVI - 136) Killing birds: Caffeine is a poison.**

“An adult male kea (Nestor notabilis) in good body condition was found dead at Aoraki/Mt Cook Village, in the Southern Alps of New Zealand. The bird had previously been involved in behavioural tests of problem-solving ability. The bird had substantial subcutaneous and abdominal reserves of fat. The crop contained 20 g of what appeared to be dark chocolate; a conservative estimate of the dose of methylxanthines ingested by the bird was 250 mg/kg theobromine, 20 mg/kg caffeine and 3 mg/kg theophylline. Histopathological examination revealed acute degenerative changes to hepatocytes, renal tubules, and cerebrocortical neurons. Diagnosis: Acute combination methylxanthine toxicity after opportunistic ingestion of chocolate.” (Gartrell B D, and Reid C).

**XVI - 137) Killing insects:**

**a- Caffeine is an insecticide:** A patient told me that when in her house there were too much flying insects at evening, she put used **coffee powder** in a frying-pan over the fire, and when it was releasing fumes, she walked with the pan spreading these fumes in the rooms and killed all the insects.

**b- Caffeine is an insecticide:** “By preparing the **caffeine** olate emulsions (20 volume % oil, 2.00 weight % surfactant, 0.04 weight % caffeine, 0.05 weight % oleic acid) with anionic surfactants (sodium lauryl sulfate, sodium laureate, and sodium oleate), we obtained a lethal time 50 of 23 minutes. In the case of caffeine olate emulsions prepared with nonionic surfactants (Tween 20 and Tween 80), a lethal time 50 of approximately 17 minutes was observed.” (Araque P, and others).

**c- Caffeine is an insecticide:** “Previous experiments showed that **caffeine** blocks the development of Aedes aegypti (Diptera, Culicidae) in the larval stage, consequently inhibiting the production of adults. This study results corroborate **caffeine** as an alternative as an important Aedes aegypti control agent to avoid resistance.” (Laranja A T, and others).

**d- Caffeine is an insecticide:** “Reproductive potential (ovary length and egg number) was significantly reduced in the lepidopterans receiving **caffeine/theophylline** treated leaves in comparison to the control. Protein and energy contents in the egg of the moths showed remarkable decrease with increasing concentrations of secondary plant metabolites in the feed.” (Mathavan S, and others).
Leukemia (acute) in children. At France, “...comparing 472 (407 acute lymphoblastic leukaemia and 62 acute myeloblastic leukaemia) cases of childhood acute leukaemia... Maternal alcohol consumption of more than 1 drink per day was related to acute lymphoblastic leukaemia (OR = 2.8). While maternal coffee consumption was not significantly related to acute leukaemia (OR = 1.4), highest intake of coffee (more than 3 cups per day) during pregnancy was associated with acute leukaemia in children whose mothers were non-smokers (OR = 1.9).” (Menegaux F, and others).

Our findings confirm the detrimental association between maternal coffee consumption and childhood leukemia risk and provide indications for a similar role of maternal cola intake. In contrast, an inverse association with tea was found, implying that other micronutrients contained in this beverage could potentially counterbalance the deleterious effects of caffeine.” (Thomopoulos T P and others)

Liver enzymes reduced. “In coffee drinkers, liver enzymes (gamma-glutamyl transferase, alanine-amino transferase, and alkaline phosphatase) and serum bilirubin were lower than in non-coffee-drinking subjects or in those consuming less than 3 cups daily.” (Casiglia E, and others).

Liver toxicity potentiation, acute damage exacerbated, and pro-inflammatory cytokines increased:

“Caffeine triples the amount of a toxin called N-acetyl-p-benzoquinone imine produced by the enzyme as it breaks down acetaminophen (paracetamol) (73 trade-marks on Brazil). This same toxin is also produced during an interaction between alcohol and acetaminophen that's also well known to damage the liver. Some people may be more vulnerable to this toxic interaction than others. They might include people who take certain antiepileptic medicaments, such as carbamazepine and Phenobarbital, and people who use the alternative remedy St. John's Wort.” (Nelson S).

“It is shown that caffeine at lower doses (10 and 20 mg/kg) strongly exacerbated acute liver damage and increased levels of proinflammatory cytokines. Caffeine administration exacerbated liver damage even when mice consumed caffeine chronically, although the extent of exacerbation was less than in "naive" mice that did not consume caffeine before.” (Ohta A, and others).

“Cotreatment of rats with a low hepatotoxic dose (30.7 mg/kg, i.p.) of allyl alcohol and a higher, but nontoxic, dose (150 mg/kg, oral) of caffeine potentiated the hepatotoxicity of allyl alcohol. The depression of hepatic nonprotein sulfhydryls... was much more severe than that caused by allyl alcohol or caffeine alone and appeared as early as 30 minutes after administration. The production of melondialdehyde in the rat liver was significantly higher... Severe liver damage induced by cotreatment with caffeine and allyl alcohol was further, markedly enhanced by phenobarbital pretreatment (80 mg/kg, i.p., 3 days)... Thus, extensive necrosis of periportal hepatocytes was noted, as well as edema and accumulation of inflammatory cells in the necrotic foci.” (Karas M, and Chakrabarti S K).

Low-density lipoprotein cholesterol (LDL) higher level: “Higher caffeinated beverage intake was associated with higher low-density lipoprotein cholesterol levels and a higher ratio of total to high-density lipoprotein cholesterol, both indicative of greater coronary disease risk.” (Lane J D, and others).

Lower mental well-being: In Brisbane, Australia, “We investigated the temporal relationship between lifestyle and mental health among 564 midlife women. The mental health measured included anxiety, depression, and mental well-being; the lifestyle measures included body mass index (BMI), exercise, smoking, alcohol use, and caffeine consumption. We found that BMI was positively related with mental well-being; smokers had lower mental well-being than nonsmokers, and noncaffeine drinkers had higher mental well-being.” (Xu Q, and others).

Lung adenocarcinoma:
“Tea and coffee contain catechins and flavonoids, which have been shown to exhibit anticarcinogenic properties. Conversely, caffeine may elevate cancer risk through a variety of mechanisms. The current study investigated the effects of regular consumption of black tea and coffee on lung cancer risk among 993 current and former smokers with primary incident lung cancer (at Buffalo, NY 14263, USA).…Lung cancer risk was not different for those with the highest black tea consumption (>or=2 cups/day) compared with nondrinkers of tea…However, elevated lung cancer risk was observed for participants who consumed 2-3 cups of regular coffee daily (OR=1.34) or >or=4 cups of regular coffee daily (OR=1.51). In contrast, decaffeinated coffee drinking was associated with decreased lung cancer risk for both participants who consumed <or=1 cup/day (OR=0.67) and those who consumed >or=2 cups/day (OR=0.64). These results suggest that any chemoprotective effects of phytochemicals in coffee and tea may be overshadowed by the elevated risk associated with caffeine in these beverages.” (Baker J A, and others).

“The long-term intake of the dietary supplement [FastOne, which contains extracts of kola nut (with caffeine and theobromine – Microsoft Bookshelf 98), grape, green tea (also with caffeine and theobromine) and Ginkgo biloba, and is used as an agent for weight management] inducing CYP1A2 may increase the incidence of colorectal cancers caused by procarcinogens activated by CYP1A2 in rapid N-acetyltransferase-2 acetylators and of lung adenocarcinoma in slow acetylators.” (Ryu S D, and Chung W G).

“Women with slow N-acetyltransferase 2 (NAT2) and rapid cytochrome P450 1A2 (CYP1A2) activity were at highest risk relative to women with rapid NAT2 and slow Cytochrome P4501A2 activity, for lung adenocarcinoma.” (Seow A, and others).

“Using a cell line derived from a human Pulmonary adenocarcinoma with Clara cell features and immortalized human small airway epithelial cells, our data show that caffeine activated protein kinase A (PKA), the mitogen-activated kinases ERK1/2, the nuclear transcription factor cyclic AMP response element binding protein (CREB) and stimulated cell proliferation in these cell lines. These findings suggest that exposure to caffeine may contribute to the prevalence of Pulmonary adenocarcinoma observed today.” (Al-Wadei H A, and others).

XVI - 144) Lupus erythematosus: We observed in our patients who reduced their caffeine intake, that those who were suffering with Lupus erythematosus and other autoimmune diseases became better from them. We observed that their complaints reduced and their medicaments also could be reduced or finished after finishing the caffeine intake. The incurable Lupus erythematosus maybe can be cured stopping the caffeine. We think that the caffeine stimulates the production of auto-antibodies in the susceptible patient.

XVI - 145) Lymphatic edemas: They are chronic edemas caused by the increased production of lymph in any place without the adequate drainage for that volume from that place. So, the lymph accumulates and results in an edema. We had patients with many years of chronic lymphatic edemas who where incurable by any medicine, but became better or cured stopping the drinks of caffeine, wine and beer. Our conclusion is that the etiologies of caffeine, wine and beer increase the lymph production or reduce its drainage, or both. Removing these etiologies, the lymphatic drainage becomes sufficient for the lymph production and those “incurable” lymphatic edemas cured, without any medicament or other treatment. The patients love this, but never more they will pay any treatment.

XVI - 146) Malignant hyperthermia susceptibility: “Intramuscular caffeine injection leads to a significantly higher increase of local lactate levels in malignant hyperthermia susceptible than in malignant hyperthermia nonsusceptible and control individuals.” (Metterlein T, and others).

XVI - 147) Medullary disturbs: “On the medulla caffeine is a stimulant. The spinal cord reflexes are also rendered more responsive. Muscular endurance is increased by moderate amounts; large doses, on the other hand, occasion muscular trembling and weakness. In moderate amounts coffee possesses some aphrodisiac action. Excessive doses lessen the activity of the spinal reflex centers.” (Butler G F).
XVI - 148) Melanoma: We suspect that caffeine stimulates other risk factors, as radiation and epidermic friction, which in susceptible persons cause the cell genetic disturbance which results on a melanoma. Meanwhile, when the patient already has a melanoma, many authors described the caffeine effects pro and against the cancer, but without healing it.

Caffeine blocks the anticancer effect of Vitamin C on Melanoma: “The proliferation of B16F10 melanoma cells was suppressed by vitamin C, which induced growth arrest in a dose-dependent manner without cytotoxic effects... Caffeine blocked vitamin C-induced growth arrest in B16F10 melanoma cells.” (Hahm E, and others).

XVI - 149) Menstrual dysfunction: Caffeine shorten the cycle length and menses.

“In 403 healthy premenopausal women... Women whose caffeine consumption was heavy (>300 mg of caffeine per day) had less than a third of the risk for long menses (> or =8 days) compared with women who did not consume caffeine. Those whose caffeine consumption was heavy also had a doubled risk for short cycle length (< or =24 days); this association was also evident in those whose caffeine consumption was heavy who did not smoke.” (Fenster L, and others).

XVI - 150) Mental ill-health: “Green tea has been widely acknowledged in Japan to induce a pleasurable mental feeling... Between a general population of 380 Japanese aged 20-69 years... the consumption of brewed green tea was not statistically associated with any decrease in risk of mental ill-health among either males or females. Daily caffeine intake (100 mg) inclusive of green tea, black tea, coffee and other caffeine-containing beverages was associated with a higher risk of mental ill-health among females.” (Shimbo M, and others).

XVI - 151) Metabolic Syndrome:

“Drinking more than one soft drink daily is associated with a higher risk of developing adverse metabolic traits, as well as developing the metabolic syndrome. It doesn't matter if the soda consumed is the diet variety, those with zero calories; these also increased the burden of metabolic risk in middle-aged adults.” (Dhingra R and Vasan R). The caffeine is ever in those soft drinks.

Metabolic Syndrome usually is defined as the presence of the following (Olatunbosun S T, and Dagogo-Jack S):

<table>
<thead>
<tr>
<th>Risk factor</th>
<th>WHO</th>
<th>NCEP ATP III</th>
<th>AACE</th>
<th>IDF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arterial Blood pressure</td>
<td>=/&gt; 140/90 mmHg</td>
<td>=/&gt;130/85 mmHg</td>
<td>=/&gt; 130/85 mmHg</td>
<td>=/&gt;130/85 mmHg</td>
</tr>
<tr>
<td>Triglyceride</td>
<td>=/&gt; 150 mg/dL</td>
<td>=/&gt; 150 mg/dL</td>
<td>=/&gt; 150 mg/dL</td>
<td>=/&gt; 150 mg/dL</td>
</tr>
<tr>
<td>HDL-C men</td>
<td>&lt; 35 mg/dL</td>
<td>&lt; 40 mg/dL</td>
<td>&lt; 40 mg/dL</td>
<td>&lt; 40 mg/dL</td>
</tr>
<tr>
<td>HDL-C women</td>
<td>&lt; 39 mg/dL</td>
<td>&lt; 50 mg/dL</td>
<td>&lt; 50 mg/dL</td>
<td>&lt; 50 mg/dL</td>
</tr>
<tr>
<td>Body mass index</td>
<td>&gt; 30 Kg/m2</td>
<td>-</td>
<td>=/&gt;25 Kg/m2</td>
<td>&gt; 30 Kg/m2</td>
</tr>
<tr>
<td>Waist men</td>
<td>-</td>
<td>&gt; 102 cm</td>
<td>-</td>
<td>=/&gt; 94 cm</td>
</tr>
<tr>
<td>Waist women</td>
<td>-</td>
<td>&gt; 88 cm</td>
<td>-</td>
<td>=/&gt; 80 cm</td>
</tr>
<tr>
<td>Waist/Hip ratio men</td>
<td>&gt; 0.90</td>
<td>-</td>
<td>&gt; 0.90</td>
<td>-</td>
</tr>
<tr>
<td>Waist/Hip ratio women</td>
<td>&gt; 0.85</td>
<td>-</td>
<td>&gt; 0.85</td>
<td>-</td>
</tr>
<tr>
<td>Glucose fasting</td>
<td>Diabetes type II or &gt; 101 – 125 mg/dL</td>
<td>=/&gt; 100 mg/dL</td>
<td>&gt; 110 - 126 mg/dL</td>
<td>Diabetes type II or &gt; 100 mg/dL</td>
</tr>
<tr>
<td>Oral Glucose T Test 75 g – 2 h</td>
<td>&gt; 140-199 mg/dL</td>
<td>-</td>
<td>&gt;140 mg/dL</td>
<td>&gt; 140 mg/dL</td>
</tr>
</tbody>
</table>
Urinary albumin excretion =/>20 mcg/min

Albumin-creatinine ratio =/>30 mg/g

HDL-C = High-density lipoprotein cholesterol
WHO = World Health Organization
NCEP/ATP III = National Cholesterol Education Program/Adult Treatment Panel III
AACE = American Association of Clinical Endocrinologists
IDF = International Diabetes Federation

XVI - 152) Microphthalmia in the chick embryo. “Our experiments in the chick embryo demonstrated that caffeine is a potential teratogen. It causes asymmetrical microphthalmia to develop by increasing ROS production and perturbs Pax6 expression.” (Ma Z L, and others).

XVI - 153) Mitral valve prolapse. We had patients with the simultaneous signs and symptoms of the caffeine intoxication and the mitral valve prolapse. Was this only a coincidence? Or the Mitral valve prolapse was caused also by the caffeine in the fetus or at the patient childhood?

XVI - 154) Mood disorder: “Caffeine's effect on mood is complicated and not fully understood. Although initially it may promote some improvement in mood, notably identified by some slight euphoria or focused attention, this pattern may give way to a chronic dysphoria.” (Lande, R G).

XVI - 155) Morton’s neuroma (Morton’s metatarsalgia) aches: We had a mulatta patient, with White, Black and Indian ancestors, with 55 year-old, 1.60 meters tall (5 feet and 3 inches), weighting 78 kilograms (172 pounds), one child. During an ophthalmologic exam, she referred to us that she suffered on the last 6 years of daily aches at her left foot, beginning at morning when she stands up. The orthopedist, after many exams and magnetic resonance, diagnosed it as a Morton’s neuroma, and submitted her to various therapies, but the aches always were there. She used to drink some 5 small cups (50 milliliters each) of strong Brazilian coffee daily, on her work with computer. Although we never had a patient with this Morton's neuroma, we suggested her to stop the caffeine and see what it would result.

After 2 weeks she came back to show us her new eyeglasses, and told us that the left foot's aches disappeared at the second day without coffee, and did not return again. She noted also that she lost some pounds, and her clothes became broad. The Morton’s neuroma surely remains there. Only the aches disappeared. She doesn't need more any medicaments nor physiotherapy. It is very good to cure a patient so easily, isn’t it?

XVI - 156) Motor coordination impairments: “The study population consisted of 27 patients affected by Migraine without aura (16 females, 11 males) (mean age: 8.7 ± 2.15 years) and 59 typically developing children (34 females, 25 males)... Migraine without aura children had more impairments in motor coordination and visual motor integration than control group.” (Esposito M, and others).

Although the authors did not mention it, it is our experience that the caffeine is the main etiology of these migraines without aura in children.

XVI - 157) Multiple sclerosis: see above the chapter XIII - Cerebrospinal Fluid Hypertension Syndrome (Idiopathic Intracranial hypertension without papilledema) (Benign intracranial hypertension) (Pseudotumor cerebri) – Brain and spinal chord.
“The hypothesis presented in this paper suggests that Multiple sclerosis may be caused by an allergic or other adverse reaction to certain foods, mostly cocoa products, cola, and coffee. Many Multiple sclerosis patients have one or more manifestations of other well known reactions to those foods, such as migraine, urticaria, or gastrointestinal disturbances.” (Maas A G, and Hogenhuis L A).

XVI - 158) Myocardial infarction, acute: “In this Italian population alcohol intake was inversely associated to acute myocardial infarction risk, while smoking and heavy coffee drinking (> or = 6 cups of coffee expresso and mocha intake per day) increased the risk of acute myocardial infarction.” (Tavani A, and others).

“Among Massachusetts women aged 45-69 years, the risk of myocardial infarction increased with increasing number of cups per day among both drinkers of any type of coffee and drinkers of caffeine-containing coffee only. No increase was observed for fewer than 5 cups per day.” (Palmer J R, and others).

“Intake of coffee was associated with an increased risk of nonfatal myocardial infarction only among individuals with slow caffeine metabolism (carriers of the variant cytochrome P450 1A2*1F), suggesting that caffeine plays a role in this association.” (Cornelis M C, and others).

“Coffee intake may trigger myocardial infarction. The association is particularly strong among people (at Costa Rica) with light/occasional intake of coffee (< or =1 cup/day), with sedentary lifestyle, or with 3 or more risk factors for coronary heart disease.” (Baylin A, and others)

XVI - 159) Myopia – increasing degrees: moderate to severe. The excessive eye distention that results in severe myopia is caused by a congenital scleral weakness, in addition to some ocular hypertension at very young age. The caffeine drank by the mother intoxicating her fetus, or intoxicating her breast-feeding baby, is the etiology of her infant higher intraocular pressure together with the scleral weakness, which causes him with myopia and glaucoma years later. As genetically determined stronger people are more sensible to the caffeine intoxication, this causes the common astonishing clinical finding of a strong person with glaucoma or high myopia. This association was frequent between our patients. This was not God's desire: this was caused by the caffeinated mother intoxicating his strong son while pregnant and nursing him with caffeine.

As caffeine is an Adenosine receptor blocker, this is the main etiology to the myopia development in intoxicated babies: “In mice...Genetic deletion of the Adenosine A(2A) receptor confers development of relative myopia with increased axial length and altered scleral collagen fiber structure during postnatal development in mice. Thus, the Adenosine A(2A) receptor may be important to normal refractive development.” (Zhou X, and others).

XVI - 160) Myopia – increasing people suffering: “The 1971-1972 National Health and Nutrition Examination Survey provided the earliest nationally representative estimates for US myopia prevalence.... Using the 1971-1972 method, the estimated prevalence of myopia in persons aged 12 to 54 years was significantly higher in 1999-2004 than in 1971-1972 (41.6% vs 25.0%, respectively). Prevalence estimates were higher in 1999-2004 than in 1971-1972 for black individuals (33.5% vs 13.0%, respectively) and white individuals (43.0% vs 26.3%, respectively) and for all levels of myopia severity (>2.0 dioptre [D]: 17.5% vs 13.4%, respectively; < or =2.0 to >-7.9 D: 22.4% vs 11.4%, respectively; < or =-7.9 D: 1.6% vs 0.2%, respectively.” (Vitale S, and others).

This higher myopia incidence is the result of the higher consumption of caffeine by the US population. As the Coca-Cola company becomes richer, the population becomes sicker. And one of these sicknesses is myopia. But the Coca-Cola profits are more important than the people's health! Oh yes!

XVI - 161) Necrotizing enterocolitis in premature infants. “A potential association between the administration of caffeine and the development of medical or surgical necrotizing enterocolitis in premature infants exists.” (Cox C and others).

XVI - 162) Nervousness: It is caused by the caffeine intoxication, besides other etiologies. The caffeine is a chemical stress maker.
XVI - 163) Neural tube defects: anencephaly, spina bifida, encephalocele: “Using data from the National Birth Defects Prevention Study... for 768 mothers of infants with neural tube defects... Positive associations were observed between spina bifida and total caffeine consumption (OR 1.4) and each caffeine source except caffeinated tea, which showed a negative association with spina bifida (OR 0.7). Associations with modestly increased risk of neural tube defects and encephalocele were also observed. The association between caffeine consumption and anencephaly differed by maternal race/ethnicity.” (Schmidt R J, and others).

On these same patients: “A subset of 306 Neural tube defects and 669 control infants and their parents were genotyped for CYP1A2*1F (was classified by fast or slow oxidation status), NAT2 481C>T, and NAT2 590G>A (variants were categorized into rapid or slow acetylation status)... Neural tube defects were independently associated with infant slow NAT2 acetylator status (RR, 2.00) and maternal CYP1A2*1F fast oxidation status (OR, 1.49). Mothers who consumed caffeine, oxidized CYP1A2*1F quickly, and acetylated NAT2 slowly had a... elevated estimated risk for an Neural tube defects-affected pregnancy (OR, 3.10).” (Schmidt R J, and others).

“Neural tube defects, including spina bifida and anencephaly, are the second most common birth defects with an incidence in Italy of 0.4-1/1,000... From 133 case mothers...high caffeine intake (OR = 10.82)... mainly determined spina bifida risk in the multivariate analysis.” (De Marco P, and others).

XVI - 164) Neurogenesis depressed: “Neurogenesis continues through adulthood in the hippocampus and olfactory bulb of mammals. Adult neurogenesis has been implicated in learning and memory, and linked with depression. Hippocampal neurogenesis is increased in response to a number of stimuli, including exposure to an enriched environment, increased locomotor activity, and administration of antidepressants. Adult neurogenesis is depressed in response to aging, stress and sleep deprivation. Physiologically relevant doses of caffeine can significantly depress adult hippocampal neurogenesis.” (Wentz C T, and Magavi S S).

XVI - 165) Neurotoxicity:: “The neurotoxicity effect of caffeine may be associated with the inhibition of neural repair and the promotion of neuroinflammation.” (Yang CC and Jou IM).

XVI - 166) Newborns sufferings from mothers drinkers of caffeine and mate:

“The premature newborn of a mother who reported drinking mate during pregnancy presented with increased jitteriness and irritability, high-pitched cry, hypertonia in the limbs, and brisk tendon reflexes consistent with neonatal withdrawal syndrome. High concentrations of caffeine and theobromine were detected in various maternal and neonatal biological matrices (placenta, cord serum, neonatal urine, maternal and neonatal hair, meconium, and breast milk), demonstrating both acute and chronic prenatal and postnatal exposure to these methylxanthines, contained in high amounts in homemade mate. Symptoms progressively disappeared at 84 hours of age, although intermittent irritability was still present when the infant was discharged at 24 days of age. Fluctuating caffeine (and theobromine) content in different breast milk feeds likely generated the baby's irritability, due to either the physiological stimulatory effects of the methylxanthines or postnatal withdrawal syndrome as the substances cleared from the body.” (Martín I, and others).

“Caffeine withdrawal symptoms were even reported in newborns whose mothers were heavy coffee drinkers during pregnancy. The infants displayed irritability, increased emotional activity, and vomiting. Symptoms were present at birth but spontaneously disappeared after a few days.” (Suleman A, and Lorenzo N).

XVI - 167) Nocturia: It is caused by the caffeine intoxication, besides other etiologies. “Among female elementary school teachers in Taipei...Nocturia was associated with age and caffeine consumption”. (Liao Y M, and others).

XVI - 168) Non-articular rheumatism in women: “Six women, aged 24 to 53, presented with symptoms of diffuse aching, morning stiffness, and fatigue, but demonstrated no objective abnormalities on
joint examination or in laboratory studies. Each was found to have idiopathic edema, a disorder of fluid retention probably related to an abnormality of capillary permeability in which transudation of fluid into the subcutaneous tissues of dependent parts may result in swelling and discomfort. The rheumatic symptoms improved when therapeutic measures were directed against the accumulation of edema fluid. This syndrome may account for a minority of cases of nonarticular rheumatism in women." (Pinals RS, and others).

This study, wrote at the year of 1979, is the perfect description of this part of the caffeine intoxication. My congratulations to the authors! They only missed to mention the caffeine etiology.

XVI - 169) Numbness and formicating: It is caused by the Cerebrospinal fluid's hypertension, but it can be caused by the caffeine chronic intoxication alone. We have cured many patients with years of chronic numbness, after one month of withdrawing the caffeine from their diet. Sometimes, when on the hands, it is denominated as “Carpal Tunnel Syndrome” (see above).

XVI - 170) Obesity: Besides the common etiology of obesity which is a caloric disturb, there is a stimulolus for the obesity caused by caffeine, excessive water and beer, with two steps, the first stimulating the progression of the second.

1st. Step - Water obesity: It is the body's stuffing the water retention caused by the ingestion of caffeine, excessive water or beer. It is a temporary obesity, because the body easily removes it as soon as the patient stops the inappropriate drinking. The body takes less than one month to get rid of the water obesity, usually only few days. Meanwhile, if the patient does not stop drinking these etiologies, the water obesity can endure months or years, and it becomes chronic. Medically it is denominated as an “edema” or as “water retention”.

2nd. Step - Fat obesity: When the water obesity cronifies and endures for months or years, it is progressively changed to a fatness stuff, medically known as “obesity”. This fat obesity is slowly growing and it is very difficult for the body to get rid of it. But this “obesity” is a consequence of the chronification of the “edemas”, and this is the way that the caffeine, excessive water and beer slowly becomes fat.

XVI - 171) Omentum (belly-fat) increase: “Caffeine will increase the production of cortisol. The omentum houses cortisol. People who have abused caffeine for many years can develop an over distended omentum.” (Conant D).

XVI - 172) Oral Cleft: “... in Norway between 1996 and 2001. The study included 573 cases-377 with cleft lip with or without cleft palate and 196 with cleft palate only... Maternal consumption of coffee and other caffeine-containing beverages in early pregnancy... Compared with that for no coffee consumption, the adjusted odds ratios for cleft lip with or without cleft palate were 1.39 for less than 3 cups a day and 1.59 for 3 cups or more.” (Johansen AM, and others).

XVI - 173) Osteoporosis. Decalcification. Osteoporotic fractures:

Caffeine removes Calcium from the bones, causing decalcification and osteoporosis, and excrete the calcium in the urine, making urinary stones. After many years, this results in Osteoporosis and Nefrolithiasis. Do you like them?

“Intake of cola, but not of other carbonated soft drinks, is associated with low bone mineral density in women.” (Tucker KL, and others).

“Caffeine intake also should be limited (to patients with hypercalciuria) because caffeine increases urinary calcium excretion. The ingestion of 34 ounces of caffeine causes a loss of 1.6 mmol of total calcium, contributing to both hypercalciuria and osteoporosis.” (Leslie SW).

In 31,527 Swedish women aged 40-76 years, “a daily intake of 330 mg of caffeine, equivalent to 4 cups (600 ml) of coffee, or more may be associated with a modestly increased risk of osteoporotic fractures, especially in women with a low intake of calcium.” (Hallstrom H, and others).

“Women with caffeine intakes >300 mg/day had higher bone loss and women with vitamin D receptor (VDR) variant, tt were at a greater risk for this deleterious effect of caffeine. Caffeine affects 1,25-Dihydroxy vitamin D(3) stimulated vitamin D receptor protein expression and 1,25-Dihydroxy vitamin
D(3) mediated actions in human osteoblast cells.” (Rapuri P B, and others).

The osteoporosis begin in the fetus in his mother because she drinks and eats caffeine, it worsens at childhood with caffeinated soft drinks, it increases lifelong caused by daily coffee, tea, caffeinated soft drinks, chocolate and medicaments with caffeine, worsens following women menopause, and worsens more at old age with coffee, chocolate and tea. The consequences are the broken legs and vertebrae of the elderly people. It can be your parents' legs. Or yours own legs. Eat some chocolate now! Don't miss this occasion.

There is a big medical industry profiting by detecting osteoporosis with multiple and harmful radiological exams, with medical consultations, medicaments for osteoporosis prevention years along, and surgeries to correct the broken osteoporotic bones with prosthesis. It is really a big medical industry, profiting with the people sufferings caused by the caffeine industry.

Would it not be easier, cheaper and healthier, to teach all people about not to drink caffeine? Why the Public Health authorities do not advise the public about the caffeine's bad health consequences? Are the coffee and caffeinated soft drinks industries' profits more important than the people’s health?

Recently, a big Brazilian industry, Petrobras, set a health campaign between its employees against soft drinks, and spoke about the health dangers of Phosphoric acid. Not a word against caffeine! Why?

XVI - 174) Ovarian cancer:

“Tea intake was not associated with ovarian cancer risk in our study population (49,613 Canadian women). In contrast, a borderline positive association was observed among women who drank > 4 cups coffee/day compared to women who did not drink coffee”. (Silvera S A, and others).

“Regular coffee drinkers were at significantly increased risk of ovarian cancer compared with women who did not drink regular coffee.” (Goodman M T, and others).

At Minnesota, Minneapolis, MN, USA, “Laboratory data suggest that caffeine or some components of coffee may cause DNA mutations and inhibit tumor suppressor mechanisms, leading to neoplastic growth. This study evaluated the relationship of coffee and caffeine intake with risk of epithelial ovarian cancer in a prospective cohort study of 29,060 postmenopausal women. An increased risk was observed in the multivariate model for women who reported drinking five or more cups/day of caffeinated coffee compared to women who reported drinking none.” (Lueth N A, and others).

“Coffee consumption ... there was a suggested increased risk of ovarian cancer among premenopausal women in the New England based Case-Control Study of ovarian cancer only and an inverse association among postmenopausal women. Carrying one or both of the variant CYP19013 A or CYP19027 G alleles was associated with an 18% increased and 15% decreased (P for trend = 0.05) risk of ovarian cancer, respectively.” (Kotsopoulos J, and others).

XVI - 175) Ovarian follicles reduction: “Caffeine consumption during gestation and lactation affects the early stages of ovarian follicle development and reduces reproductive efficiency in the offspring of Wistar rats.” (Dorostghoal M and others).

XVI - 176) Paget's disease? We suspect, but we can not prove, that the daily caffeine causes or turns worse the Paget's disease, in a person with this propensity. We suppose that the vascular spasms caused by the caffeine in the bones cause the daily death of the bone's cells by ischemia. The rest of the disease is only the consequence.

XVI - 177) Pancreatic cancer:
On “Five hundred seventy patients with newly diagnosed pancreatic cancer from 14 Italian centers…
A moderate association, statistically significant only in women (odds ratio, 2.18), was found between pancreatic cancer and cigarette smoking. Consumption of 1 or 2 cups of coffee per day was not associated with increased risk; 3 coffees per day increased the risk, but not significantly (odds ratio, 1.49); with consumption of more than 3 coffees per day the increase in risk was highly significant (odds ratio, 2.53). A statistically significant dose-response relationship was observed in each sex. The association between coffee use and pancreatic cancer still held after controlling for potential confounding factors such as cigarette smoking or alcohol use, and when the analysis was restricted to nonsmoking coffee drinkers.” (Gullo L, and others).

“In Japan... Subjects were 110,792 (46,465 men and 64,327 women) inhabitants… During the follow-up period (mean 8.1 years), 225 deaths due to pancreatic cancer were identified. Heavy coffee consumption (> or =4 cups/day) may increase the risk. Men who reported a history of diabetes mellitus and women who reported a history of gallstone/cholecystitis were at significantly (2-fold) increased risk of death from pancreatic cancer.” (Lin Y, and others).

“In Ontario, Canada,...Smoking, BMI, family history of pancreatic cancer, and caffeine were significantly associated with increased pancreatic cancer risk, while fruit intake and allergies significantly decreased risk.” (Anderson L N, and others).

XVI - 178) Panic Disorder. Generalized social anxiety disorder. Performance social anxiety disorder. These are some of the many psychological disturbs that our patients have cured, only stopping their caffeine drinks, without any medicament. It is easy and cheap.

“After a 480-mg caffeine test... A panic attack was induced in 17 (60.7%) panic disorder patients, 4 (16.0%) generalized social anxiety disorder patients, and 10 (52.6%) performance social anxiety disorder patients, during the caffeine test. There is an association between panic disorder and performance social anxiety disorder hyperreactivity to an oral caffeine challenge test.” (Nardi A E, and others).

XVI - 179) Paraproteinemias? They have some characteristics of the chronic caffeine poisoning. They are related with the Type A personality, which is mainly caused by the caffeine. So, we only suspect, but we do not have statistics or other proofs, to incriminate the caffeine as their etiology.

XVI - 180) Parkinson's disease increase in women using hormones and caffeine, and both sex with chocolate, and coffee: “Use of hormones was associated with a reduced risk of Parkinson’s disease among women with low caffeine consumption, and with increased risk among women with high caffeine consumption. Among hormone users, women consuming six or more cups of coffee per day had a fourfold higher risk of Parkinson’s Disease.” (Ascherio A, and others).

“Consumption of chocolate was significantly higher in Parkinson's disease patients compared to controls.” (Wolz M, and others).

“Parkinson's Epidemiology and Genetic Associations Studies in the United States (PEGASUS) included five population-based case-control studies. One laboratory genotyped four Adenosine receptor A2A (ADORA2A) and three Cytochrome P450 1A2 (CYP1A2) polymorphisms in 1325 Parkinson's disease cases and 1735 age- and sex-matched controls. The coffee-Parkinson's disease association was strongest among slow metabolizers of caffeine who were homozygous carriers of the Cytochrome P450 1A2 polymorphisms.” (Popat R A, and others).

The men and women don't die with caffeine or chocolate, but they can get Parkinson's disease. It is fair, is not it?

XVI - 181) Paroxysmal choreo-athetosis: “Paroxysmal choreoathetosis is a movement disorder characterized by episodes or attacks of involuntary movements of the limbs, trunk, and facial muscles. Involuntary movements precipitate some attacks, and other attacks occur when the individual has consumed alcohol or caffeine, or is tired or stressed.” (National Institute of Neurological Disorders and Stroke).

The Hemifacial spasm can be caused so by the caffeine, and so by the wine intoxication.
XVI - 182) Pellucid Marginal Corneal Degeneration (Keratotorus): Nobody knows its etiology. Is it not the caffeine?

XVI - 183) Peptic ulcer: “Our results suggest a close correlation between the ulcer-like symptoms and the amount of coffee ingested by patients with duodenal ulcer.” (Eisig J N, and others).

There are studies showing that gastritis and peptic ulcer are stimulated, as by caffeine, as by decaffeinated coffee.

XVI - 184) Periarteritis nodosa: “Forty percent of the rats treated with caffeine only or with caffeine and phenacetin in combination were found to have periarteritis nodosa-like lesions in the mesenteric vessels.” (Johansson S).

XVI - 185) Physical underdevelopment (Stuntedness). It is a rare condition. It is caused by the caffeine impairing the growing cartilages when the body is developing. To its occurrence, it is necessary the simultaneity occurrence of at least three etiologic factors:

- The individual inherited very high sensibility to the caffeine.
- The individual drinks coffee continually since early childhood, or receives caffeine since before born, by his mother drinking caffeine.
- The daily drinks of milk was substituted by coffee, or there was some undernourishment.

Here is one of these patients:

**Migraines, renal stones and Physical Underdevelopment caused by caffeine:** We had a patient mulatta, who told us that since she was younger than 10-year-old, began to drink 500 to 1,000 milliliter (one to two pints) of strong coffee and some cups of common tea daily. Now, after continuous 28 years of coffee and sufferings from strong daily Migraines and bilateral renal stones, she is 38-year-old, has only 1.47 meters (4 feet and 10 inches) tall and weighting 39 kilogram (86 pounds), with a body appearance of physically underdeveloped. Her Optic Nerves’ disks show borders edemas of 0.75 dioptre without any cup, which characterizes the Cerebrospinal Fluid Hypertension Syndrome. The excessive caffeine daily since childhood, probably added with extreme sensibility to the caffeine and some undernourishment, caused all this.

XVI - 186) Pinguecula (the Pterygium beginning). Our experience shows that the Pinguecula and the Pterygium are caused by caffeine, wine and beer, together with excessive solar radiation (ultraviolet light) and deficiency of Vitamin A.

**- Curing Pinguecula without surgery:** We had a 27-year-old miss, around all White and only 1 great-grandfather Indian. She was a lawyer, without children. She was 1.54 meters (5 feet and 1 inch) tall, 49 kilograms (108 pounds) of weight. She was complaining about wide-frontal Migraines and difficult reading. At ophthalmologic exam, we did not find any need for eyeglasses. Her intraocular pressures show 20 mmHg in both eyes, which is a little high. She presents in the inner sides of both eyes a Pinguecula, evaluated as ++/+++++. Her Optic Nerve’s disks show 0.3/3/0.25 (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in both eyes, which is physiologic. We did not ask her about her drinks, and only prescribed her Vitamin A (Retinol), 50,000 units per day, during 30 days, per mouth.

After 5 months she came for another exam, with the same wide frontal headaches, and with her left eye aching, red, with the pinguecula of the right eye reduced to +++/++++++, and the left eye increased to ++++/++++++. Her intraocular pressures were still 20 mmHg in both eyes. This time we carefully asked her, and discovered that she drank daily water 3,200 milliliters (near one gallon) in order to avoid “cellulite” and to prevent the “precocious senescence”. She also drank some cola caffeinated soft drinks. We teach her to stop all the caffeine drinks and to shorten the water drank to her thirst needs, and prescribed her only eye drops of Timolol Maleate 0.5%, twice daily, in both eyes, to lower her intraocular pressures.

After more one month without caffeine or excessive water, she came without any migraine, eye red-
ness (eye erythema) or ache. Her intraocular pressures were 18 mmHg in both eyes, and both pingueculas were only +/+++. Here we see the caffeine and the excessive water drank daily, causing Ocular Hypertension, Migraines, eye’s hyperemia, aches and Pinguecula, which is the beginning of the Pterygium. All these sicknesses were easily cured.

XVI - 187) Pituitary and Thyroid dysfunction: “Thyrotropin levels were depressed 1 to 6 hr after injection and correlated with serum caffeine levels greater than 20 micrograms/ml. The decrease in serum Thyrotropin was followed by decreases in serum 3,3’,5-triiodothyroxine and thyroxine 4 hr after caffeine administration. Theophylline and theobromine had effects similar to those of caffeine on hormone levels. Caffeine inhibits growth hormone and thyrotropin secretion by releasing hypothalamic somatostatin.” (Spindel E, and others).

XVI - 188) Plasma fibrinogen elevated: “Elevated plasma fibrinogen level has been identified as a risk factor for coronary heart disease and stroke in both Western and Japanese populations…. In conclusion, it was shown …that plasma fibrinogen levels in Japanese-Americans living in Hawaii are higher than in native Japanese and that >60% of this difference is attributable to higher intakes of iron, sugar, and caffeine in Hawaii, and to obesity. These dietary factors may, through their influence on fibrinogen, partly explain the large difference in coronary heart disease risk between Eastern and Western countries, independent of genetic factors.” (Miura K, and others).

XVI - 189) Platelet aggregation increase: “Fifty healthy volunteers… Compared with baseline values, there was a significant increase in platelet aggregation following energy drink consumption, while no change was observed with control (13.7+/−3.7% vs 0.3+/−0.8% aggregation, respectively, P <.01). Similarly, reactive hyperemia index decreased following energy drink consumption (-0.33+/−0.13 vs 0.07+/−0.12 reactive hyperemia index [control], P <.05). Mean arterial pressure significantly increased following energy drink consumption, compared with control (P <.05).” (Worthley M I, and others).

XVI - 190) Polycystic ovary syndrome? We had only two patients that besides their migraines and plenty caffeine, also referred this Polycystic ovary syndrome. Was it only a coincidence? In houseflies the caffeine causes similar reproductive disturb:

“Marked changes in fecundity were noticed in houseflies fed caffeine in the diet. Partial treatment of male and female flies with caffeine also altered the oviposition pattern. Hatchability of the eggs was reduced significantly by caffeine. Ovarian growth was retarded, resulting in abnormal ovaries and malformed eggs. Histological studies of growth-inhibited ovaries revealed that differentiation of the oocytes was blocked. Biochemical analyses of ovaries isolated from caffeine-fed flies showed that they had less RNA and protein than controls.”(Srinivasan A, and Kesavan P C).

XVI - 191) Polypoidal choroidal vasculopathy: It is the degeneration of the choroidal vessels under the retina, which causes exudation, hemorrhages and blindness. Its main etiologies are caffeine, wine, beer, and diabetes. As these etiologies are common with the Age-related macular degeneration, there are patients who present both sicknesses together, one in each eye: “Among 349 patients with neovascular age-related macular degeneration, 20 (5.7%) had one eye with polypoidal choroidal vasculopathy and the other eye with typical age-related macular degeneration.” (Maruko I, and others).


XVI - 193) Postural orthostatic tachycardia syndrome. “Caffeine helps some Postural orthostatic tachycardia syndrome patients due to its stimulative effects; however, other patients report a worsening of symptoms with caffeine intake.” (Wikipedia).

XVI - 194) Preeclampsia. “A history of migraines was associated with a 1.8-fold increased risk of preeclampsia. Women who were 30 or more years old when diagnosed with migraines had the highest
risk. Overweight migrainous women, compared with lean nonmigrainous women, had a 12-fold increased preeclampsia risk.” (Adeney K L, and others).

“The fast N-acetyltransferase acetylator status, which may result in altered N-acetyltransferase detoxification capacity, is associated with preeclampsia.” (Zusterzeel P L, and others). The N-acetyltransferase is the main enzymatic pathway to detoxify caffeine.

We note that caffeine, beer, wine, chocolate and excessive water drank cause migraines, contribute to arterial hypertension (see above) and to overweight. So, they are risk-factors to preeclampsia.


“Our results demonstrated that high doses of caffeine intake during pregnancy increase the risk of miscarriage, independent of pregnancy-related symptoms.” (Weng X, and others).

“The category of mean caffeine intake of bigger or equal 300 mg/day showed a significantly increased risk of fetal death.” (Matijasevich A, and others).

“We found evidence that caffeine consumption > 300 mg/day doubled the risk of miscarriage. Adjusted odds ratios were 1.94 for 301-500 mg/day and 2.18 for > 500 mg/day.” (Giannelli M, and others).

“Among nonsmokers, more spontaneous abortions occurred in women who ingested at least 100 mg of caffeine per day than in women who ingested less than 100 mg per day, with the increase in risk related to the amount ingested.” “Among smokers, caffeine ingestion was not associated with an excess risk of spontaneous abortion. The ingestion of caffeine may increase the risk of an early spontaneous abortion among non-smoking women carrying fetuses with normal karyotypes.” (Cnattingius S, and others).

“Consumption of 5 or more units alcohol per week and 375 mg or more caffeine per day during pregnancy may increase the risk of spontaneous abortion (in gestational week 6-16 at Denmark).” (Rasch V).

“An association between a combination of genotypes (a combination of slow Cytochrome P4501A2, slow N-acetyltransferase 2, and low Gluthatione S-transferase alpha1 genes) and stillbirth was discovered. Caffeine may be causally related to stillbirth.” (Bech B H, and others).

“Slow acetylators (N-acetyltransferase 2) had a nonsignificantly increased risk for spontaneous abortion and recurrent spontaneous abortion. Low CYP1A2 (Cytochrome P4501A2) activity was associated with a significantly decreased risk for spontaneous abortion. Caffeine was a risk factor for spontaneous abortion among women with high CYP1A2 activity.” (Signorello L B, and others).

In Madrid, “Odds ratios of spontaneous abortion by caffeine consumption were calculated: 141-280 mg/day, 2.20; 281-420 mg/day, 4.81, and 421 or more, 15.43. The adjusted odds ratio for tobacco were 11 or more cigarettes/day, 3.35. It appears from this and other papers that tobacco and caffeine intake must be considered as clear risk factors for spontaneous abortion or miscarriage.” (Domínguez-Rojas V, and others).

“A total number of 9,921 healthy pregnant women with a gestational age after 24 weeks were subjected to the study. The women who drank more than 5 cups of coffee per day had a high incidence of impending abortion, premature labor, and fetuses small for gestational age. The heavy coffee drinkers among the pregnant women had high rates of spontaneous abortion, chromosomal abnormality and congenital multi-anomalies.” (Furuhashi N, and others).

XVI - 196) Prostate cancer (only from theobromine):

“Data from a population-based study of newly diagnosed cases of prostate cancer (n = 362) conducted in Utah (United States)... older men consuming 11 to 20 and over 20 mg of theobromine per day were at increased risk of prostate cancer (odds ratio [OR] for all tumors = 2.06, and OR = 1.47, respectively; OR for aggressive tumors = 1.90, and OR = 1.74, respectively). Pack-years of cigarettes smoked, alcohol intake, and consumption of alcohol, coffee, tea, and caffeine were not associated with prostate cancer risk.” (Slattery ML and West DW).
“There were 399 incident cases of prostate cancer on men, aged 45-70 years in Montreal… There was no association between the consumption of either coffee or carbonated beverages and the development of prostate cancer. Among daily tea drinkers, the odds ratio associated with the highest tertile of cumulative consumption was 2.0 when using population controls and 1.6 when using cancer controls.” (Sharpe C R, and Siemiatycki J).

XVI - 197) Pruritus ani: “Pruritus ani may result from several contributing conditions or may be idiopathic. Restoration of dry, intact perianal skin is the treatment goal. Patients should be taught gentle hygiene and drying methods and advised to avoid caffeine or other dietary items that seem to exacerbate symptoms.” (Metcalf A).

XVI - 198) Pseudo-exfoliative (exfoliation) syndrome, Pseudoexfoliation glaucoma: The patients with the Exfoliation syndrome present typical sicknesses of the chronic caffeine poisoning. According with Ritch R, the Pseudoexfoliation syndrome patients present:
- Central retinal vein occlusion.
- Low-grade inflammation.
- Increased homocysteinemia.
- Glaucoma.
- Transient ischemic attacks.
- Arterial hypertension.
- Cerebrovascular episodes.
- Myocardial infarctions.
- Angina.
- Coronary artery disease.
- Heart dysfunction.
- Cerebral atrophy.
- Alzheimer's disease.
- Hearing loss.

This above sickness list is only missing its main etiology: the caffeine.

“We identified 36 patients (mean age 78.4+/-8.3 years, 19 women). Most patients were of European descent (34/36) and 20 (56%) had no prior glaucoma diagnosis. Retinal vascular occlusions occurred more commonly in the eye with more pronounced exfoliation syndrome in 92% (33/36) of the cases.” (Prata T S, and others).

“We followed 78,977 women from the Nurses' Health Study and 41,202 men from the Health Professionals Follow-up Study who were at least 40 years of age, did not have glaucoma... Compared to abstainers, those who drank ≥ 3 cups of caffeinated coffee daily were at increased risk of exfoliation glaucoma or exfoliation glaucoma suspect (RR=1.66)... The associations were stronger among women with a family history of glaucoma.” (Pasquale L R and others).

XVI - 199) Psoriasis? We had few patients with Psoriasis who simultaneously had other disturb caused by the caffeine. We suspect that their psoriasis was also caused by the caffeine.

XVI - 200) Psychomotor agitation: It is caused by the caffeine intoxication. “After drinking 1 gram of caffeine, you’ll be a sad panda. If you manage to even challenge the number, you’ll be a schizophrenic, crazed panda, or a passed out panda. And if you’re passed out, you might get your wallet stolen.” (Energy Fiend). More than your wallet, your life is at risk with this caffeine dosage.

XVI - 201) Psychological congenital disorders? Caffeine causes psychological disorders already known in children, adolescents and adults. As the fetuses have no defense against the caffeine, it can cause disorders, which are still not know, in the psychological evolution of the fetus' brain. Which are the congenital psychological disorders caused by the caffeine? Are they for the patient's entire life? Are they related with the sexual orientation of the adult? Or related with mania, intoxicants dependency, or depression?
XVI - 202) Psychological disorders. Disphoria: “Although (Caffeine) initially may promote some improvement in mood, notably identified by some slight euphoria or focused attention, this pattern may give way to a chronic dysphoria.” (Lande, R G).

XVI - 203) Psychopathologies in psychiatric adolescents: “The group consisted of 132 adolescents (average age 14.01 +/- 2.06 years, 52% female, 19% African American, 5% other categories, 76% Caucasian). Most (47%) were recruited from a child psychiatry clinic with emphasis on youth with disruptive disorders… High caffeine consumption was associated with daily cigarette use; aggressive behavior; conduct, attention deficit/hyperactivity, and social problems; and increased somatic complaints in adolescents.” (Martin C A, and others).

XVI - 204) Psychosis, delusions, paranoia: Nobody knows all the psychotic effects that can be caused in a susceptible patient by his excessive drinks of caffeine. Recently an American (WWS) strangulated his wife and incriminated the excessive caffeine he drank as the culprit.

- “Ephedra alkaloids may cause psychosis and their effects can be exaggerated by interaction with caffeine and ethanol.” (Tormey W P, and Bruzzi A).
- “As a competitive adenosine antagonist, caffeine affects dopamine transmission and has been reported to worsen psychosis in people with schizophrenia and to cause psychosis in otherwise healthy people. We report of case of apparent chronic caffeine-induced psychosis characterized by delusions and paranoia in a 47-year-old man with high caffeine intake. The psychosis resolved within 7 weeks after lowering caffeine intake without use of antipsychotic medicament.” (Hedges D W, and others).

XVI - 205) Pterygium aggressiveness. We observed that the redness, swelling and invasive character of the Pterygium and Pinguecula are consequent to the drinks of wine, beer, excessive water and caffeine, besides other etiologies, as excessive solar radiation (ultraviolet light) and Vitamin A deficiency. But we found the Pterygium ever together the Ocular or the Cerebrospinal Fluids Hypertension.

There are many years that we do not surgically excise any Pterygium, because medicating the patient with 1 month of vitamin “A”, 50,000 units per day, totalizing 30 tablets, and withdrawing his beer, wine, excessive water and caffeine, his Pterygium clarifies, wither and loose its aggressiveness. The surgery is useless to the patient that stop his drinks.

Pterygium aggressiveness caused by caffeine and beer: We had a 57-year-old white woman, bonds seller of a farm-hotel, two children. She used to drink more than 1,000 milliliter (around two pints) of coffee and more than 3,000 milliliter of water (nearly one gallon) daily, and on weekends she drank around 1,000 milliliter (three small cans) of beer daily. Years ago, she felt strong migraines. From four years until now, she only complains of photophobia and chronic eyes redness. On ophthalmologic examination, her intraocular pressures were 14 and 15 mmHg right and left eyes, which are normal. Her Optic Nerve’s disks are physiologic. She is presenting medium size Pterygium in her both eyes, consequent to excessive caffeine, water, beer and the sun her eyes receive on her working environment. We prescribed her to stop the caffeine and beer drinks.

After 6 months she came again, and on this time her Pterygium were flat and whitish, no more bothering her. There were no more photophobia or eyes redness.

XVI - 206) Pulmonary hypertension syndrome: “...caffeine-treated broilers exposed to cold temperatures remarkably exhibited Pulmonary hypertension syndrome incidences and developed right ventricular hypertrophy with right ventricular to total ventricular weight ratios of 30% or greater. Moreover, hematocrit significantly increased because of caffeine supplementation in cool ambient temperature. Our data demonstrate that caffeine induces high incidences of Pulmonary hypertension syndrome in broilers, which is exacerbated by exposure to low temperatures.” (Kamely M and others).

XVI - 207) Rambling flow of thought and speech: It is caused by the caffeine intoxication, besides other etiologies.
XVI - 208) Raynaud's syndrome: “Raynaud's syndrome is classified into two groups: vasospastic or obstructive. Vasospastic Raynaud's is generally cold-induced. Nicotine, stress, and caffeine are associated with vasospasm.” (Whitaker L, and Kelleher A).

XVI - 209) Renal failure exacerbation in diabetic rats: “Caffeine produced a very mild increase (4 to 5%) of mean arterial blood pressure and heart rate, but greatly augmented proteinuria, reduced creatinine clearance and had a mixed effect on metabolic status in obese ZSF1 rats. Caffeine significantly reduced body weight, glycosuria, fasting glucose and insulin levels and improved glucose tolerance, had no effect on elevated plasma triglycerides levels and significantly increased plasma cholesterol level. Acute measurements of renal function revealed increased renal vascular resistance (95.1 +/- 11 vs. 50.7 +/- 2.4 mmHg/ml/min/g kidney) and decreased inulin clearance (0.37 +/- 0.11 vs. 0.97 +/- 0.13 ml/min/g kidney) in caffeine-treated animals. Caffeine potentiated the development of more severe tubulointerstitial changes and increased focal glomerulosclerosis.” (Tofovic S P, and others).


XVI - 211) Renal papillary necrosis. Analgesic nephropathy: “Case-control studies have shown that caffeine-containing analgesics are associated with analgesic nephropathy”. (Zhang W Y).

“During the last decade the nephrotoxic potential of nonphenacetin-containing preparations has become apparent. It is clear that people who abuse analgesics prefer combination analgesics containing 2 analgesics combined with caffeine and/or codeine.” “Effective prevention of analgesic nephropathy consists of the prohibition of over-the-counter sales of preparation containing at least 2 analgesics associated with caffeine and/or codeine.” (Elseviers M M, and De Broe M E.).

Some doctors forget the caffeine effect: “Analgesic abuse is a major public health hazard in Australia, and analgesic nephropathy with consequent terminal renal failure is the underlying cause in 20% of the patients requiring dialysis and transplantation. Analgesics are invariably taken in the form of compounds and mixtures. In the aspirin-phenacetin-caffeine mixture, aspirin appears to be the major nephrotoxic agent and phenacetin appears to play a secondary and synergistic role. The renal disease associated with abuse of analgesics is characteristic and is part of a much wider clinical syndrome, the analgesic syndrome, which includes peptic ulcer disease (35%), anemia (60 to 90%), hypertension (15 to 70%), ischemic heart disease (35%), psychological and psychiatric manifestations, pigmentation, and possible gonadal- and pregnancy-related effects. The primary damage in analgesic nephropathy is renal papillary necrosis, and this is a nephrotoxic effect common to all nonsteroid antiinflammatory agents.” (Nanra R S, and others).

“Potential pathogenetic mechanisms in analgesic nephropathy include direct cellular injury induced by analgesics, prostaglandin inhibition with reduction or redistribution of renal blood flow, and interesting new concepts regarding the role of caffeine in increasing oxygen demand and reducing oxygen supply in the medulla.” (Appel R G, and others).

Caffeine takes out Calcium from the bones and eliminates it by the kidneys, causing renal stones. The only prevention to this is stopping the caffeine. We had a patient that drank 10 liters (3 gallons) of water daily in order to prevent renal stones, uselessly. As he drank much caffeine daily, he had one new renal stone each year. Why the urologist physicians prescribe to drink “much water” to prevent the renal stones, and forget to prescribe the eschew of caffeine? Are the doctors blind to caffeine? Is the pleasure of drinking coffee more important than the aches and other diseases caused by renal stones?

“Caffeine increased urinary calcium/creatinine, magnesium/creatinine, citrate/creatinine and sodium/creatinine but not oxalate/creatinine in stone formers and controls. The Tiselius stone risk index for calcium oxalate precipitation increased from 2.4 to 3.1 in stone formers and from 1.7 to 2.5 in nonstone formers. Of the 39 stone formers 32 had an increased Tiselius risk index after caffeine. Post-caffeine increases in calcium/creatinine and Na/creatinine were highly correlated. Caffeine consumption may modestly increase risk of calcium oxalate stone formation.” (Massey L K, and Sutton R A).

Curing many sicknesses stopping caffeine: We had a white woman patient, religious teacher, with 48-year-old, 58 Kilograms (127 pounds) and 1.62 meters (5 feet and 4 inches) tall. She has hyperopia +3.25 and +3.25 spherical dioptrre right and left eyes, and also had presbyopia. She drank daily fruits juices 1,000 milliliter, coffee 2,000 milliliter (half gallon) and some caffeinated soft drinks. She complained of “both eyes heaviness” which worsen at menses, matutinal sneezing, sometimes with nausea and retching. Her both Optic Nerves’ disks on direct ophthalmoscopy show 0/0/0/0.25 (Cup diameter/ cup depth/ lamina cribosa pores visibility/ borders edema), which is a little of Cerebrospinal Fluid Hypertension. Her intraocular pressures were 12 and 12 mmHg in both eyes, normal. Her eyes’ anterior chambers were shallow. Accepting partly our orientation, she reduced the coffee to only 500 milliliter (one pint) each day. After one year, she discovered three renal stones, and was submitted to surgery for them. After one year more, she was still drinking 500 milliliter of coffee daily, and began to feel strong aches at her joints without any inflammatory sign. Her both Optic Nerves’ disks show 0/0/0/0.5 and 0/0/0.5. This time she stopped the coffee and the soft drinks, and immediately felt one week of strong aches in both legs, that kept her at bed, as a withdrawal syndrome. Now, without any caffeine, she is cured, without any other sign or symptom. This patient is an example of some pathological effects of the caffeine, the one week of aches from its abstinence syndrome, and the sicknesses cure withdrawing the caffeine.

XVI - 213) Restless Legs Syndrome and periodic limb movement disorders: One of their predisposing factors is caffeine. (Sharma S).

“There is an association between Restless Legs Syndrome and migraine and, in addition, a co-association with depression. Restless Legs Syndrome frequency was significantly higher in migraine patients 17.3% than in control subjects 5.6%.” (Rhode A and others).

We observed that Caffeine causes or worsens all these sicknesses.

XVI - 214) Restlessness: It is caused by the caffeine intoxication, besides other etiologies.

XVI - 215) Retinal ischemic peripheral degeneration? Retinal tear? Retinal detachment? The caffeine is a vasoconstrictor in the brain and retina. Its daily use for years, in a genetically susceptible patient, can be the cause of the degenerative lesions in the peripheral retina, with consequent retinal tear and retinal detachment. Probably these lesions are caused by chronic vasoconstriction and ischemia. They also can be caused by wine, as we observed in some patients.

XVI - 216) Reversible cerebral vasoconstriction syndrome: “Reversible cerebral vasoconstriction syndrome, characterized by severe headaches and reversible constriction of cerebral arteries, may be associated with ischemic and hemorrhagic strokes... On 89 consecutive patients... 8 were postpartum and 46 used vasoactive substances... 2 independent risk factors of hemorrhage in Reversible cerebral vasoconstriction syndrome: female gender (OR, 4.05) and migraine (OR, 2.34).” (Ducros A, and oth-
Caffeine is a vasoconstrictor in the brain and it is the main etiology of migraines.

XVI - 217) Rhabdomyolysis:
“Toxic-mediated rhabdomyolysis may result from prescription and nonprescription medicaments, including caffeine.” (Craig, S).

XVI - 218) Rheumatic, Visceral, Muscular, and Orthopedic aches (pain) intensification:
“Caffeine: Cup of Pain, Liquid Stress”
“I have seen a very strong correlation between caffeine use & pain. Caffeine makes every muscle in your body tighter, including the involuntary muscles in the internal organs. If a massage therapy client stops or starts using caffeine, I can feel a difference in their body: more muscle tension with caffeine. Increased muscle tension leads to pain.” (Rothstein J).

We observed that the rheumatic and orthopedic aches that our patients present are stronger when they are daily users of caffeine. When the patient gets free from the caffeine, even those “incurable” aches lessens or disappears after one week, up to one month. We have cured many backaches and other aches in any part of the body from our patients, only stopping their caffeine consumption. Here is one of these patients:

**Big man suffering 10 years with Rhinitis, Backaches and Headaches:** We had one **almost Black patient, (dark mulatto),** with 23 year-old, 1.78 meters tall (5 feet and 10 inches), weighting 106 kilograms (234 pounds). He is a male nurse, and was suffering with obstructive rhinitis with coryza, frontal headaches and backaches, for more than 10 years along. His both eyes were beginning to get chronically red. Many physicians prescribed him medicaments, without success. He was drinking daily 3,400 milliliters (nearly 1 gallon) of water, some Maté, caffeinated soft drinks 1,000 milliliters (two pints), and some beer and wine on weekends. On ophthalmologic examination we found the need of eyeglasses that he never knew about, and we could not measure his intraocular pressures because of his photophobia. On direct ophthalmoscopy, he presented Optic Nerve’s disks with 0/0/0.5 and 0/0/0.75 right and left eyes (cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which is typical of the Cerebrospinal Fluid Hypertension. We prescribed him his first eyeglasses, to reduce the water drank, to stop the beer and wine, and to stop all caffeine, as in soft drinks as in Maté.

After one month, he came explaining that he suffered the first week with headaches, and now all his headaches and backaches vanished, without medicament. His nose does not disturb anymore. He is only drinking guaraná 600 milliliters (20 fluid ounces) each week. This time his intraocular pressures show 18 and 16 mmHg right and left eyes, with deep (physiologic) anterior chambers. His Optic Nerves’ disks show a little reduction of their former edemas.

With this patient, we see the sufferings caused by the Cerebrospinal Fluid Hypertension Syndrome, caused by the caffeine, excessive water, beer and wine. We also see how easy it is to cure all those sufferings without any medicament, and to prevent some definitive damage that could happen years later.

XVI - 219) Rheumatoid Arthritis.
There are studies showing the increased occurrence of Rheumatoid Arthritis in caffeine drinkers. In a research of patients with rheumatoid arthritis at Denmark, there was increased risk to women that drink more than 5 cups of coffee per day, and much increased to the drinkers of more than 10 cups of coffee per day. (Pedersen M, and others).

Among “31,336 women ages 55-69 years without a history of rheumatoid arthritis…subjects drinking > or = 4 cups/day of decaffeinated coffee were at increased risk of rheumatoid arthritis.” (Pedersen M, and others).
**Rheumatoid Arthritis, Migraines, Depression, Panic syndrome, Caffeine and Chocolate:** We had a 39 year-old masseuse, Brazilian White, married, no child, with great-grandfathers from Portugal, Italy, Black, and Indian origin. She was 1.76 meters tall (5 feet and 9 inches), weighting 74 kilograms (163 pounds). From the last 10 years she suffered with nearly daily migraines. One year ago, she began to suffer Rheumatoid Arthritis, and her hands and feet swell, and felt many aches. She was nearly stopping her work because her hands ache too much. She also presented panic syndrome, depression, gastritis, dizziness, some deafness, and visual disturbs with images distortions from macular edemas. She was medicated daily with Cloroquine 250 mg, corticosteroids 10 mg, Omeprazol, analgesic with caffeine, and anti-depressive. She drank coffee 250 ml (8 fluid ounces), caffeinated soft drinks 300 ml (10 fluid ounces), some chocolate and plenty of water daily. All her 4 eyelids presented darkness +++ (maximum is ++++), with a masquerade appearance. On ophthalmologic examination we found intraocular pressures of 16 and 18 mmHg right and left eyes (normal). The anterior chambers of her both eyes were a little shallow. On direct ophthalmoscopy her Optic Nerves’ disks show 0.6/3/3/0.25 and 0.5/3/1/0.5 right and left eyes (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which configures suspicion of glaucoma and Cerebrospinal Fluid Hypertension simultaneously.

We taught her to stop all caffeine and chocolate, and shorten the water drinks to the thirst needs. She presented so extraordinary withdrawal headaches with vomits for 3 days, that she went to be medicated on an emergency department. After one month she came back, **All cured!** There were no more aches, no Rheumatoid Arthritis or depression, no more sufferings. Her hands were normal. She had lost 3 kilograms of weight (probably of retained water) on her waistline, and was happy. She was beginning to shorten all those above medicaments. Her direct ophthalmoscopy was 0.6/3/1/0.25 and 0.5/3/1/0.25. It remained the dark pigmentation on her eyelids. Her intraocular pressures show 16 an 14 mmHg.

So much sufferings were cured easily and without any medicament! Does someone from your family still drink caffeine and eat chocolate? These poisons are delicious, aren't they? Enjoy them!

**Rheumatoid Arthritis and caffeine:** We had a beautiful Mulatta, 28-year-old, 1.66 meters (5 feet and 5 inches) tall, 60 Kilograms (132 pounds), working with children recreation, two children. Her great-grandfathers and great-grandmothers were European, Black, and Indian. She used to drink coffee 500 milliliter (one pint) and caffeinated soft drinks 1.000 milliliter (two pints) daily, for the last 10 or more years. She had suffered with “allergic otitis”, “allergic rhinitis”, “allergic sinusitis and Pharyngitis” all these years, without the medical doctors identifying any specific etiology. She suffered many therapies without cure. Six months ago, she presented spread Rheumatoid Arthritis, and now she takes eight different medicaments daily, and is preparing to add one more. Her eyes presented intraocular pressures of 12 and 14 mmHg (physiologic). Almost her entire eyes examination was physiologic.

On her direct ophthalmoscopy, we found only small increase of the Optic Nerves’ cups, with 0.6/3/1/0 and 0.5/3/1/0 right and left eyes (Cup diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema), which characterizes the Ocular Hypertension Syndrome, which explains the old “allergic Otitis, rhinitis, sinusitis and Pharyngitis”.

Was the Rheumatoid Arthritis stimulated by the excessive caffeine she drank all those years, in addition to her personal inherited susceptibility? Is there a pathological stimulus to the immunologic system caused by the caffeine?

**Cloroquine doesn't cure. Withdrawal of caffeine cures:** We had a 74 year-old Brazilian White house-wife, 2 children, weighting 58 kilograms (128 pounds), with 1.53 meter tall (5 feet). Her father was Portuguese white, her mother was mulatta. Her sufferings began more than 10 years before, with legs aches at night and morning, everyday. Her aches worsened and spread to almost all her joints, with bi-temporal headaches, precordial angina, legs and back aches. All aches were so strong that she could no more walk, and she wore wheelchair. On December 2007, she began to medicate with Chloroquine, 400 mg each day, which made her feel a little better. On February 2009, she came limpingly in our office, supported by a granddaughter, in order to control the eye's toxicity of chloroquine.

She was a daily drinker of caffeinated colas, maté 400 milliliters (nearly 1 pint), and coffee 150
milliliters (5 fluid ounces). For improving her aches, she medicated with caffeinated analgesics. Besides other exams, we taught her to stop all caffeine at once. She decided to stop also the chloroquine, without any advise to do this.

Now, after only 1 month, she came walking straight, without any of her old strong aches. All those sufferings were past. There remained few and small aches, which doesn't bother her. Even the precordial angina reduced. She told us that she suffered the first week of aches from caffeine's withdrawal, but was strong enough to sustain it. Now she is cured, without chloroquine. Her Rheumatoid doctor became very admired.

Caffeine reversed the effect of methotrexate: “Weekly low-dose methotrexate remains the mainstay of second-line therapy for rheumatoid arthritis...Neither theophylline alone nor caffeine alone (each at 10 mg/kg/day) significantly affected the severity of the arthritis, but both agents markedly reversed the effect of methotrexate.” (Montesinos M C, and others).

XVI - 220) Schizophrenia, schizoaffective disorder, mania, and depression.

“People with schizophrenia typically consume large amounts of caffeine.” (Lande R G).

“Among caffeine consumers, heavy caffeine intake (> or =200 mg/day) was significantly associated with schizophrenia (64%).” (Gurpegui M, and others).

“If their theory is correct then abnormalities of reverse learning might account for some aspects of schizophrenia, mania, and depression.”(Brown D W).

“Schizophrenia/schizoaffective disorder group had two times greater serum caffeine levels as compared to smokers without any mental illness with similar smoking behavior.”(Gandhi K K, and others).

“Caffeine, 10 mg/kg, was administered to 13 schizophrenic patients in a double-blind placebo-controlled study of its behavioral effects. Some measures of psychopathology were significantly increased: Brief Psychiatric Rating Scale (BPRS) total, BPRS subscales thought disorder, unusual thought content, and euphoria-activation, and several individual BPRS items. Nurses' Bunney-Hamberg ratings of psychosis and mania, comparing the day before with the day after pharmacological challenge, increased significantly. Compared to placebo, caffeine also produced significant increases of diastolic blood pressure and cortisol.” (Lucas P B, and others).

XVI - 221) Scotopic sensitivity syndrome? Irlen syndrome? Probably it is caused by an excessive sensibility of the visual pathway to the caffeine intoxication. We had few patients diagnosed with this to confirm the etiology. The treatment is easy: absence of the caffeine.

XVI - 222) Sex hormones disturbs: “In premenopausal women, caffeine intake was inversely associated with luteal total and free estradiol, and positively associated with luteal progesterone levels. Coffee intake was significantly associated with lower luteal total and free estradiol levels, but not luteal progesterone levels. Among the postmenopausal women, there was a positive association between caffeine and coffee intake and sex hormone-binding globulin levels.” (Kotsopoulos J, and others).

XVI - 223) Skeletal growth impairment: “In 7346 pregnant women participating in a population-based prospective cohort study from early pregnancy onward in the Netherlands (2001-2005)...Higher caffeine intake was associated with smaller first-trimester crown-rump length, second- and third-trimester femur length, and birth length. Offspring of mothers who consumed > or =6 caffeine units/d tended to have increased risks of small-for-gestational-age infants at birth. Our results suggest that caffeine intake of > or =6 units/d during pregnancy is associated with impaired fetal length growth. Caffeine exposure might preferentially adversely affect fetal skeletal growth.” (Bakker R, and others).

“Femora in the caffeine group (of young rats) were wider, periosteal bone area/total bone area was greater, the cross sectional area of femoral bone was smaller, and there were fewer osteocytes/bone area than in controls. Calcium, phosphorus, zinc, and hydroxyproline concentrations in the caffeine group were less in both bones. These results indicate that if animals are exposed to caffeine during the rapidly growing period, changes occur in femoral bone which are similar to those that occur with aging.”(Sasahara H, and others)
XVI - 224) **Sleep bruxism:** It can be the caffeine effect disturbing the sleep. “Grinding of teeth during sleep occurring at least weekly was reported by 8.2% of the subjects, and significant consequences from teeth grinding during sleep (ie, muscular discomfort on awakening, disturbing tooth grinding, or necessity of dental work) were found in half of these subjects”. “Subjects with obstructive sleep apnea syndrome, loud snorers, subjects with moderate daytime sleepiness, heavy alcohol drinkers, caffeine drinkers, smokers, subjects with a highly stressful life, and those with anxiety are at higher risk of reporting sleep bruxism.” (Ohayon M M, and others).

XVI - 225) **Sleep disorders in adults and infants:** “Caffeine has been shown to prolong sleep latency and shorten total sleep duration with preservation of the dream phases of sleep.” (Suleman A, and Lorenzo N).

“Caffeine exerts obvious effects on anxiety and sleep which vary according to individual sensitivity to the methylxanthine”. (Nehlig A, and others).

“In 12 young (20-30 years) and 12 middle-aged (40-60 years) moderate caffeine consumers… the evening ingestion of caffeine lengthened sleep latency, reduced sleep efficiency, and decreased sleep duration and amount of stage 2 sleep in both age groups. Caffeine also reduced spectral power in delta frequencies in frontal, central and parietal brain areas, but not in prefrontal and occipital regions. Moreover, caffeine increased spectral power in beta frequencies in frontal and central brain areas in both age groups. Generally, caffeine produced similar effects in young and middle-aged subjects. Only a few frequency bins showed more effects of caffeine in middle-aged subjects compared with young subjects.” (Drapeau C, and others).

**Infant nighttime waking:** “In 885 children born in 2004 in the city of Pelotas, Brazil... Night waking was defined as an episode of infant arousal that woke the parents during nighttime. All but 1 mother consumed caffeine in pregnancy. Nearly 20% were heavy consumers (>300 mg/day) during pregnancy and 14.3% at 3 months postpartum. Prevalence of frequent nighttime awakeners (>3 episodes per night) was 13.8%. The highest prevalence ratio was observed among breastfed infants from mothers consuming ≥300 mg/day during the whole pregnancy and in the postpartum period.” (Santos I S, and others).

XVI - 226) **Sperm damage:** On sperm analyses, “men (healthy non-clinical group of 80 non-smokers (mean age: 46.4 years, range: 22-80 years) with no known fertility problems), who consumed >3 cups coffee per day had approximately 20% higher percentage tail DNA damage associated with double-strand DNA breaks.” (Schmid T E, and others).

“Among 2,554 young Danish men recruited when they were examined to determine their fitness for military service in 2001-2005...High cola (>14 0.5-L bottles/week) and/or caffeine (>800 mg/day) intake was associated with reduced sperm concentration and total sperm count, although only significant for cola.” (Jensen T K, and others).

XVI - 227) **Snoring excessively:** Our obese patients who present excessive snoring when sleep, became better withdrawing their caffeine drinks. The most serious cases were the patients with **Obstructive Sleep Apnea Syndrome**, described above.

On Montreal, Quebec, Canada...“Regular snoring was significantly associated with male sex, age 25 or more, obesity, daytime sleepiness or naps, night time awakenings, consuming large amounts of caffeine, and smoking.” (Ohayon M M, and others).

XVI - 228) **Stress worsening:** “Caffeine elevated urinary epinephrine levels during work by 37% but did not affect norepinephrine or cortisol levels... Results suggest caffeine may increase the activity of the sympathetic adrenal-medullary system during everyday activities in the work environment. This action may potentiate psychophysiological responses elicited by occupational stressors.” (Lane J D).

“High doses of caffeine produce a stresslike neuroendocrine response in rats. This response is characterized by increased serum corticosterone, beta-endorphin, and decreased serum growth hormone and TSH. A person must consume 500 mg caffeine (equivalent to 5 cups of coffee) in one sitting for there
to be any possible endocrine effects.” (Spindel E).

**XVI - 229) Stroke. Ischemic stroke. Hemorrhagic stroke:** On “390 subjects (209 men, 181 women) … after **acute ischemic stroke**... The relative risk (RR) of stroke in the hour after consuming **coffee** was 2.0. There was no apparent increase in risk in the hour following consumption of **caffeinated tea** (RR = 0.9) or **cola** (RR = 1.0). The association between ischemic stroke in the hour after coffee consumption was only apparent among those consuming ≤1 cup per day but not for patients who consumed coffee more regularly. Coffee consumption transiently increases the risk of ischemic stroke onset, particularly among infrequent drinkers.” (Mostofsky E, and others).

“Overall, the impact of dietary caffeine on population blood pressure levels is likely to be modest, probably in the region of 4/2 mmHg. At these levels, however, population studies of blood pressure indicate that **caffeine** use could account for premature deaths in the region of 14% for coronary heart disease and 20% for stroke.” (James J E).

When **caffeine is taken together with ephedra or synephrine**, it can cause brain stroke:
“Following the 2004 ban of ephedra, which was linked to several cases of stroke and myocardial infarction,... **synephrine** is touted by its promoters as a "safe" alternative to ephedra and is often combined with **caffeine**, as in the supplement Xenadrine-EFX. We report a case of left middle cerebral artery vasospasm and stroke in a young healthy patient in the setting of Xenadrine-EFX use.” (Holmes R O Jr, and Tavee J).

“In South Korea, from 2002 to 2004. A total of 940 patients with nontraumatic acute hemorrhagic stroke, aged 30 to 84 years...The adjusted odds ratio for the association between the use of **caffeine-containing medicines** and risk for hemorrhagic stroke was 2.23 for all hemorrhagic stroke, 2.24 for subarachnoid hemorrhage, and 2.49 for intracerebral hemorrhage...the adjusted odds ratio of caffeine-containing medicines for hemorrhagic stroke was 2.95 for those who did not drink coffee on a daily basis. These results suggest that the use of caffeine-containing medicines is associated with increased risk of hemorrhagic stroke, both subarachnoid hemorrhage and intracerebral hemorrhage.” (Lee S M and others).

**XVI - 230) Stuttering:** Stuttering is related with anxiety disorders: On “92 adults seeking treatment for stuttering... the stuttering group had six- to seven-fold increased odds of meeting a 12-month diagnosis of any DSM-IV or ICD-10 anxiety disorder. In terms of 12-month prevalence, they also had 16- to 34-fold increased odds of meeting criteria for **caffeine-containing medicines** and risk for hemorrhagic stroke was 2.23 for all hemorrhagic stroke, 2.24 for subarachnoid hemorrhage, and 2.49 for intracerebral hemorrhage...the adjusted odds ratio of caffeine-containing medicines for hemorrhagic stroke was 2.95 for those who did not drink coffee on a daily basis. These results suggest that the use of caffeine-containing medicines is associated with increased risk of hemorrhagic stroke, both subarachnoid hemorrhage and intracerebral hemorrhage.” (Iverach L, and others).

As caffeine is one etiology of anxiety disorders, caffeine must be also a risk factor for stuttering. It is only missing a study to prove this.

**XVI - 231) Sudden Infant Death Syndrome:** “A nationwide case-control study surveying parents of 393 sudden infant death syndrome victims and parents... Infants whose mothers had heavy **caffeine** consumption (defined as 400 mg/day or more, equivalent to four or more cups of coffee per day), throughout their pregnancy had a significantly increased risk for sudden infant death syndrome (odds ratio 1.65).” (Ford R P, and others).

“Thirty babies were tested for gastroesophageal reflux before and during caffeine treatment. Eighteen ... while undergoing theophylline treatment. Episodes of **gastroesophageal reflux** increased significantly in about 50% of the group treated with **caffeine** and in 66% of the group treated with **theophylline**... An increase was noted for the number of episodes of gastroesophageal reflux in 24 hours (from 5.3 to 17.1 in the caffeine group and from 5.3 to 24.3 in the theophylline group) and for the time pH was less than 4 (from 0.87% to 6% in the caffeine group and up to 13% in the theophylline group). Because gastroesophageal reflux is another known risk factor for **sudden infant death syndrome**, the administration of xanthine derivatives in babies at risk for sudden infant death syndrome should be carefully considered in each case.” (Vandenplas Y, and others).
**XVI - 232) Suicide increase:** At Finland, “We followed-up 43,166 subjects for the mean 14.6 years, and 213 suicides were committed. Daily coffee drinking had a J-shaped association with the risk of suicide. Using the Cox model we controlled for potential covariates, and found that among heavy coffee drinkers (> or = 8 cups/day) the risk of suicide was 58% higher compared with more moderate drinkers.” (Tanskanen A, and others).

“Among 352 longitudinally assessed DSM-IV types I and II bipolar disorder patients...Current smoking (46%) and coffee drinking (74% of cases) were common, and significantly and independently associated with suicidal acts [coffee: odds ratio (OR) = 2.42; smoking: OR = 1.79]. Risk increased with more smoking (cigarettes/day; r(s) = 0.383) and greater coffee consumption (cups/day; r(s) = 0.312).” (Baethge C, and others).

On February of 2.010 there was a notice of an epidemic of suicide between teenagers in the USA, and the authorities were incriminating the anti-depressive medicaments. Why they do not incriminate the caffeine that these teenagers daily drank?

Buy to your child 1 liter of cola and some chocolate daily! Buy now! He is begging!

**XVI - 233) Susac's syndrome?** Its signs and symptoms, which are mainly of many ischemic micro-infarcts in the brain and in the eyes, probably are caused by the caffeine intoxication, but we have no patients to proof this.

**XVI - 234) Sweating excessively on palms and soles (Palmar hyperhidrosis):** between the many etiologies of this excessive sympathetic action, one is the caffeine sensibility. Withdrawing the caffeine, most palmar hyperhidrosis improves, which is far better than the medicaments or the surgical sympathectomy.

**XVI - 235) Tachycardia, Irregular or rapid heart beat, Palpitations:** It is caused by the caffeine intoxication, besides other etiologies.

**XVI - 236) Teratogenic potentially effects:** “The increased risk of the most common congenital malformations entailed by moderate consumption of caffeine is very slight. However, caffeine potentiates the teratogenic effect of other substances, such as tobacco, alcohol, and acts synergistically with ergotamine and propranolol to induce materno-fetal vasoconstrictions leading to malformations induced by ischemia.” (Nehlig A, and Deby G.).

“A previous study demonstrated that caffeine strongly potentiated the teratogenic action of mitomycin C in mice. Jcl:ICR mice … Mitomycin C at 3 mg/kg and the methylxanthines (disconnected) at the doses used were not teratogenic. Combined administration of caffeine or theophylline with mitomycin C produced more than 80% of malformed fetuses.” (Nakatsuka T, and others).

**XVI - 237) Testicular atrophy:** “Feeding the methylxanthines caffeine, theobromine, or theophylline to 4- to 6-week-old males Osborne-Mendel rats at a dietary level of 0.5 percent for periods ranging from 14 to 75 weeks... A significant positive finding was the occurrence of severe bilateral testicular atrophy with aspermatogenesis or oligospermatogenesis in 85-100 percent of the rats fed caffeine or theobromine... The methylxanthines were fed to Holtzman rats for 19 weeks. The testicular effects were similar ...but were more pronounced. Caffeine and theobromine induced testicular injury in nearly all rats. Theophylline induced severe testicular atrophy in 14 percent of the rats, mild to moderate atrophy in 71 percent, and had no effect in 15 percent. The relative testicular toxicity of the methylxanthines was caffeine, most potent; theobromine, slightly less potent; and theophylline, considerably less potent. Somewhat variable atrophic changes of the accessory sexual organs (epididymis, prostate, and seminal vesicles) accompanied the testicular changes.” (Friedman L, and others).

**XVI - 238) Testosterone reduced in postmenopausal women:** “In 728 white postmenopausal women aged 42-90 years in the Rancho Bernardo community-based study in 1984-1987... Caffeine intake was inversely associated with age and waist/hip ratio and positively associated with alcohol consumption. Significant inverse associations were noted between caffeine intake and bioavailable testosterone... At
high doses (equivalent to more than 2 cups of coffee or four cans of caffeinated soda daily), caffeine intake was positively associated with plasma estrone...” (Ferrini R L, and Barrett-Connor E).

XVI - 239) Testosterone and semen reduced in sons: “There was a tendency toward decreasing crude median semen volume and adjusted mean testosterone concentrations with increasing maternal coffee consumption during pregnancy. Sons of mothers drinking 4-7 cups/day had lower testosterone levels.” (Ramlau-Hansen C H, and others).

XVI - 240) Thyroid carcinogenesis: “Caffeine may synergistically promote thyroid carcinogenesis with iodine deficiency partially through a pituitary-dependent pathway in rats, implying the possible implication of routine caffeine intake in the promotion of thyroid carcinogenesis.” (Son H Y, and others).

XVI - 241) Thyroid Eye Disease? (Thyroid-related Immune Orbitopathy?): This immune orbitopathy probably has worsening influence from the pro-inflammatory effect of the caffeine. Meanwhile, we have not enough patients with this sickness to study it.

XVI - 242) Tooth wear. “Medical conditions which put patients at risk of tooth wear are principally: … caffeine addiction…” (Young W G).

Most of the Brazilian 17 year-old boys who annually are drafted for the military service have so bad teeth situation, that this is the main cause for they being refused to ingress in the military service. Every year, the military doctors relate the same, and the military authorities never knew why.

XVI - 243) Tooth cariogenesis and tooth enamel badly developed (on rats). “The enamel of the first molars in the caffeine group showed significantly higher caries scores than that of the controls. This appears to be the first unequivocal evidence that caffeine is a cariogenic agent when newborns are exposed to it during critical periods of tooth development. Therefore, the widespread human consumption of caffeine could be a threat to the healthy development of teeth.” (Nakamoto T, and others).

“Thus various methods consistently indicate that caffeine ingestion (by the rat’s dam) during early growth (of rat’s offspring) affects the enamel surface of the first molars, resulting in impaired mineralization. Caffeine intake may therefore have a negative effect on amelogenesis and possibly increases susceptibility to dental caries.” (Falster A U, and others).

XVI - 244) Tourette syndrome and other tic disorders:

As Tourette syndrome is caused or worsened by caffeine, and the same caffeine causes all the Fluids Hypertension Syndromes with many Migraines between them, the patients with Tourette syndrome have more migraines than the general population.

“Two hundred twenty-four people with Tourette syndrome...a significant tic deterioration was found for caffeine- and theine-containing drinks such as coke, coffee, and black tea, as well as for preserving agents, refined sugar, and sweeteners. Results... demonstrated that 34% and 47% of responders, respectively, assessed that coffee and coke deteriorate tics.” (Muller-Vahl K R, and others).

“The frequency of migraine headache in a clinic sample of Tourette syndrome subjects was nearly 4-fold more than the frequency of migraines reported in the general population” (Kwak C and others).

XVI - 245) Toxicity exacerbation: “Caffeine exacerbates the acute toxicity of 3,4-methylenedioxymethamphetamine (MDMA, 'ecstasy') in rats characterized by hyperthermia, tachycardia and lethality. Co-administration of caffeine with MDMA provoked a switch from MDMA-induced hyperthermia and bradycardia to hyperthermia and tachycardia without influencing MDMA-induced hyperlocomotion.” (Vanattou-Saifoudine N, and others).

XVI - 246) Type A personality: All patients we had with this personality were plenty with caffeine. Those who stopped the caffeine became more amiable and sensible, and less provocative.

We conclude that caffeine is the main cause of “type A” personality and this can be changed
stopping the caffeine drinks.

XVI - 247) Umbilical vein endothelial cells inhibition: “These results suggest that high concentrations of caffeine inhibit cell growth of umbilical vein endothelial cells and induce apoptosis through the caspase-9 pathway.”(Matsuoka S, and others).

XVI - 248) Urinary hydrogen peroxide levels increased: “A cup of brewed or canned coffee commercially available in Japan generated 120-420 micro mol hydrogen peroxide in incubation in a neutral medium at 37 degrees C for 6 h. Apparent hydrogen peroxide levels in urine collected 1-2 h after coffee drinking increased 3-10-fold compared to the levels before coffee drinking. The major component that generates hydrogen peroxide is 1,2,4-benzenetriol, and storing urine collected after coffee drinking increased hydrogen peroxide levels in a time-dependent fashion. Total hydrogen peroxide equivalent levels excreted in 3 h-urine after coffee drinking were estimated to be 0.5-10% that of coffee consumed.” (Hiramoto K, and others).

XVI - 249) Urinary incontinence. Unstable bladder. Overactive Bladder Syndrome: “The mean caffeine intake of women with detrusor instability was significantly higher than that of controls.” (Arva L A, and others).

“In 65,176 women 37 to 79 years old without incontinence in the Nurses' Health Study and the Nurses' Health Study II... There was a modest, significantly increased risk of incontinence at least weekly in women with the highest (greater than 450 mg) daily (caffeine) intake (RR 1.19) and a significant trend of increasing risk with increasing intake. This risk appeared focused on incident urgency incontinence (greater than 450 vs less than 150 mg daily, RR 1.34)... The attributable risk of urgency incontinence associated with high caffeine intake was 25%... A fourth of the cases with the highest caffeine consumption would be eliminated if high caffeine intake were eliminated.” (Jura Y H, and others).

“Caffeine at 4.5 mg/kg caused diuresis and decreased the threshold of sensation at filling phase, with an increase in flow rate and voided volume. So, caffeine can promote early urgency and frequency of urination. Individuals with lower urinary tract symptom should avoid or be cautious in consuming caffeine containing foodstuffs.” (Lohsiriwat S, and others).

XVI - 250) Urinary obstruction: “In the 297 women who participated, mean age was 68.2 years, mean body mass index was 30.2 kg/m(2), and median vaginal parity was 3... Coffee drinking was associated with difficulty emptying the bladder (adjusted OR 8.6) and weak stream (adjusted OR 5.3).”(Bradley C S, and others).

XVI - 251) Urticaria: “We describe a 10-year-old child who developed urticaria after the intake of coffee and cola beverages. The prick test and the oral challenge test with caffeine were both positive.” (Caballero T, and others).

“Caffeine at 4.5 mg/kg caused diuresis and decreased the threshold of sensation at filling phase, with an increase in flow rate and voided volume. So, caffeine can promote early urgency and frequency of urination. Individuals with lower urinary tract symptom should avoid or be cautious in consuming caffeine containing foodstuffs.” (Lohsiriwat S, and others).

XVI - 252) Uveitis: anterior chronic or relapsing. We had patients with relapsing or chronic anterior uveitis caused by the weekly ingestion of beer, and sometimes of caffeine. Some of them were post-cataract surgical patients. With medicament, mainly corticosteroids, the uveitis remits and relapse again and again for months and years, slowly driving these eyes to the glaucomatous blindness. Our patients who had the will-power to stop the beer and the caffeine drinks, improved or cured from this relapsing uveitis.
Paragraph 1:

**XVI - 253) Varicose veins:** *Caffeine* promotes retention of water and legs edemas, and it worsens the varicose legs’ veins. Stopping the caffeine, besides the removal of around 2 kilograms (2 to 4 pounds) of edemas, the varicose veins also improve markedly, reducing their number and volume in one month.

**XVI - 254) Vascular placental pathology:** “Risk is significantly elevated among obese, primiparous women, women with a past familial history (first degree) of preeclampsia or eclampsia, cocaine use or association of tobacco and *caffeine* use, increased placental mass (associated with twin pregnancy, fetal hydrops or molar pregnancy), uncontrolled diabetes, lupus, active scleroderma.” (Foidart J M, and others).

**XVI - 255) Vasodilation caused by the caffeine:** “Caffeine produced a potent, concentration-dependent relaxation of internal mammary artery.” (Montes F R, and others).

**XVI - 256) Vasospasms (arterial) caused by caffeine:**

“The results suggest that vasospasms not only are present in Raynaud's disease, migraine, and Prinzmetal's variant angina but also may be an important factor in the genesis of low-tension glaucoma.” (Gasser P, and others).

“Vasospastic disease represents a group of diseases in which the common link is spasm. The causes of the individual disorders may differ slightly but a history of exacerbation of the symptoms by cold, emotional stimuli, or *caffeine* usually will be elicited. Ulceration and gangrene do not usually occur. Treatment involves patient education, reassurance, and the use of oral vasodilating agents.” (Feller S R and Dockery G L).

**XVI - 257) Violence increase between high school students:** “In a survey of Boston public high schools...Adolescents who drank more than five cans of soft drinks per week (nearly 30% of the sample) were significantly more likely to have carried a weapon and to have been violent with peers, family members and dates. Frequent soft drink consumption was associated with a 9-15% point increase in the probability of engaging in aggressive actions... There was a significant and strong association between soft drinks and violence. There may be a direct cause-and-effect relationship, perhaps due to the sugar or *caffeine* content of soft drinks, or there may be other factors...” (Solnick S J and Hemenway D).

**XVI - 258) Vitiligo:**

**Vitiligo, Normal Tension glaucoma, and caffeine:** *We had a black patient, 66-year-old, 75 Kilo grams (165 pounds), 1.75-meter tall, sales clerk, which for the last 25 years had suffered from Vitiligo that worsened continuously. He was a chronic daily drinker of coffee 100 milliliter; common tea 200 milliliter, and cola soft drink 700 milliliter, all these years. On his ophthalmic examination we found Optic Nerves' disks cups of 0.7/3/2/0 and 0.7/3/1/0 right and left eyes (Cup’s diameter/ cup’s depths/ lamina cribosa’s pores visibility/ borders edema), which is incipient Glaucoma. His intraocular pressures were 16 and 14 mmHg, with shallow anterior chambers, which configures Normal (Peak) Tension Glaucoma. He presented daily chronic “allergic” sneezes from 2 years until now, mainly when awakening.*

*Here we see a patient presenting both the low-tension glaucoma and simultaneously the Vitiligo. Was this only a coincidence, or there is relation between the Vitiligo with the caffeine which also caused the Low-tension Glaucoma?*

Vitiligo is a well-known psychosomatic disease and it worsens with caffeine.
Which are the other psychosomatic diseases that also worsen with caffeine?

**XVI - 259) Voice disorders in teachers:**
“The prevalence of voice disorders among teaching staff was 57%. The most prevalent lesions were vocal overstrain (18%), nodular lesions (14%), and hyperfunctional dysphonia (8%)… We find a significant risk of suffering voice disorders in teachers who smoke daily (OR: 2.31) and who drink several cups of coffee or tea (OR: 1.87). (Preciado-López J, and others).

XVI - 260) Xeroderma pigmentosum worsening. “The Xeroderma pigmentosum variant complementation group has normal unscheduled DNA synthesis after ultraviolet exposure. However, the ability to repair DNA is reduced after adding caffeine to cultured cells. This defect is caused by mutations in the (pol)eta polymerase, which initiates translesion synthesis of ultraviolet-damaged DNA in an error-free manner.” (Hedera P, and Fink J K). Their description is for the Xeroderma pigmentosum cultured cells. Which are the pathogenic effects of caffeine in the Xeroderma pigmentosum patients?

XVI - 261) Weight gain (Edemas). Water retention. Obesity: We observed in many of our patients that they had excessive weight of 2 kilograms, and on people heavier than 90 kilograms, they could have excessive 4 kilograms consequent to the chronic edemas and water retention caused by the caffeine. The water is retained in the belly, bosom, buttocks, arms, legs, hands, feet, all over the body. The eschew of caffeine resulted in loss of this excessive weight and edemas reduction in 1 month, without any medicament. Without any caffeine the edema vanishes spontaneously.

There is an observation of male rats exposed to caffeine gain excessive fat: “Pregnant mice (C57BL/6) were treated with caffeine (20 mg/kg, i.p.)... This caffeine dose results in a circulating level that is equivalent to 2 cups of coffee in humans... When offspring were studied in adulthood... We also observed a 20% increase in body fat with male mice exposed to caffeine.” (Wendler C C, and others). Is this the cause of the epidemic obesity in children?

XVI - 262) Weight loss: Loss of body fat, consequent to the caffeine:

At Cambridge, MA, USA, “18 417 men and 39 740 women... who were followed from 1986 to 1998... Age-adjusted models showed a lower mean weight gain in participants who increased their caffeine consumption than in those who decreased their consumption, but the differences... were small: -0.43 kg in men and -0.41 kg in women... An increase in coffee and tea consumption was also associated with less weight gain. In men, the association between caffeine intake and weight was stronger in younger participants; in women, the association was stronger in those who had a body mass index (in kg/m2) > or = 25, who were less physically active, or who were current smokers.” (Lopez-Garcia E, and others).

XVI - 263) "Wide-awake drunk". “Caffeine can offset the effects of alcohol when the levels of caffeine are high and the levels of alcohol are low. The reversal is best for the sleep-inducing effects of alcohol, but co-ordination & performance may not improve -- leaving a "wide-awake drunk".” (Best B).

This can be achieved by the association of coffee with whiskey: the known “Irish coffee”; here on Brazil, by drinking cachaça with “Red Bull” soft drink.

XVI - 264) Withdrawal symptoms:

“A literature search identified 57 experimental and 9 survey studies on caffeine withdrawal that met inclusion criteria. The following 10 symptom fulfilled validity criteria: headache, fatigue, decreased energy/activeness, decreased alertness, drowsiness, decreased contentedness, depressed mood, difficulty concentrating, irritability, and foggy/not clearheaded. In addition, flu-like symptoms, nausea/vomiting, and muscle pain/stiffness were judged likely to represent valid symptom categories. In experimental studies, the incidence of headache was 50% and the incidence of clinically significant distress or functional impairment was 13%. Typically, onset of symptoms occurred 12-24 h after abstinence, with peak intensity at 20-51 h, and for a duration of 2-9 days. In general, the incidence or severity of symptoms increased with increases in daily dose; abstinence from doses as low as 100 mg/day produced symptoms... Expectancies are not a prime determinant of caffeine withdrawal and avoidance of withdrawal symptoms plays a central role in habitual caffeine consumption.” (Juliano L M, and Griffiths R R).
“Cessation of daily caffeine consumption significantly increased the mean velocity, systolic velocity and diastolic velocity in all four cerebral arteries. In the middle cerebral artery, the pulsatility index was significantly decreased...significantly increased the EEG theta power...also increases in heavy feelings in arms and legs and decreases in ability to concentrate.” (Jones H E, and others).

Note: These above sicknesses are caused by caffeine together with its metabolites. The metabolites are produced in our body mainly by the Cytochrome P450 1A2, in order to detoxify the caffeine. The main metabolites of the caffeine are:

- Paraxanthine – 80%;
- Theobromine – 12%;
- Theophylline – 4%;
- 1,3,7-Trimethyluric acid – 1%. (Regal K A, and others)

We conclude that Caffeine is poisonous, treacherous and a scattered health worsening factor. The caffeine protracted use acts at least by 19 pathological ways:

1) Caffeine's effects on health are different when in few minutes, in few hours or after months. The same occurs with theobromine (chocolate).
2) The personal sensibility to caffeine is varied: In each patient the doses and effects are different. The main origin of this personal sensibility is inheritance, but it also can be acquired. Some resistant patients becomes sensible to caffeine with age. Smoking protects the person from some effects of caffeine. Some people are entirely intolerant to caffeine, and to them, even one little cup of coffee or a small chocolate is poisonous and cause them to be sick. The asseveration that "to drink until 300 mg of caffeine per day is safe to any people" is a gross error.
3) Caffeine is treacherous: caffeine alone, or with analgesics, reduce the migraines and headaches in minutes, but after few hours or at the next day, caffeine is the main etiology to all the migraines and variants. Caffeine doubles the total number of patients suffering, and it increases all their migraines, signs and symptoms.
4) Caffeine is a generic aches intensifier everywhere in the body, after months of daily use.
5) Caffeine causes edemas. After months of daily use, Caffeine retains water in the body, it increases the fluids’ retention caused by other etiologies or risk factors, which results in the Fluids Hypertension Syndromes and small spread edemas. Caffeine daily drinks can increase the body weight up to 4 kilograms (8.8 pounds) only with retained water.
6) Caffeine alone is the etiology of around 200 sicknesses, but together with other etiologies, caffeine is a worsening factor of more than 400 signs, symptoms and sicknesses above mentioned at the Summary.
7) Caffeine and its metabolites are carcinogenic. When already there are cancer cells, caffeine is also toxic to them and stimulates its dying, without entirely curing the cancer. So, caffeine is also a chemical therapy to cancer.
8) Caffeine is treacherous: it improves the mood, but after few minutes it causes and worsens many psychological disorders.
9) Caffeine worsens many psychiatric disorders. We suspect that caffeine also cause them.
10) Caffeine is treacherous: it stimulates the physical and cardiac performance, but after years, it causes cardiac, hypertensive and vascular disorders.
11) Caffeine worsens some autoimmune disorders. We suspect that caffeine also causes some of them.
12) Caffeine causes aseptic neuritis, neuralgias and other neurological disorders.
13) Caffeine causes blood micro-circulatory pathologies, visible at the patient's retinal degeneration.
14) Caffeine weakens the connective tissues, the eye's sclera and the cornea, killing their cells.
15) Caffeine weakens the cartilages, mainly after 40 years old, killing their cells and causing rheumatism.
16) Caffeine weakens the teeth and the bones causing decalcification, increasing fractures in the elders.
17) Caffeine causes addiction. medicaments with caffeine, coffee, tea, cola, guaraná, and chocolate have delicious immediate physical and psychological effects. After few hours, when they cause sufferings, the patient is stimulated to drink more of them. So, all caffeine users have moderate physical and...
psychological dependence from it, they refuse to know this, and it is difficult to stop its use.  
18) Caffeine is teratogenic and can cause the embryo death. The fetuses and breast feeding babies have no defense against the caffeine intoxication from their mothers. Caffeine drank by pregnant causes many congenital and late onset sicknesses in her children.  
19) Caffeine is scattered toxic to human, animal and vegetable health. Few are the insects and microbes not intoxicated by caffeine.

The above list of caffeine toxicity is incomplete.  
Do you suffer with some of these above disturbs or sicknesses? Did your mother drink caffeinated tea, colas or coffee when she was pregnant with you, or when she was breast-feeding you? Did you drink enough cola when you were a child? Or enough coffee or chocolate as an adult? What are you going to do now?

**XVII - Coffee, tea, and wine protect from some sicknesses**

**XVII - A – Decaffeinated coffee and tea:**

**Contents:**

1- Blood pressure reduction.  
2- Cutaneous type-I allergic reaction.  
3- Diabetes type 2 risk reduction  
4- Endothelial function improvement.  
5- Hearing threshold in diabetic neuropathy.  
6- Ovarian cancer risk reduction.  
7- Parkinson’s disease risk reduction  
8- Rectal cancer risk reduction.  
9- Retinal neuronal death attenuation.  
10- Serum uric acid and hyperuricemia lowering.

**XVII - B – Caffeine alone, caffeine benzoate, caffeinated coffee, tea and colas:**

**Contents:**

11- Alzheimer's disease therapy.  
12- Cardiovascular mortality reduction for older people.  
13- Cognitive decline reduction.  
14- Genetic composition and caffeine consumption.  
15- High-fat diet.  
16- Women suicide prevention.  
17- Anal sphincter increased contraction.  
18- Antibacterial activity.  
19- Anti-cariogenic effects.  
20- Antiviral activity.  
21- Bladder cancer.  
22- Brain injury following head trauma.  
23- Breast cancer.  
25- Cancer cells induction to death.  
26- Colon cancer.  
27- Endometrial cancer.  
28- Hepatocellular cancer.  
29- Ovarian cancer.  
30- Sarcoma and melanoma cancer.  
31- Skin cancer.  
32- Chemotherapy and radiotherapy enhancement.
33- Cell death enhancement caused by hyperoxia.
34- Erectile function improvement on diabetic rats.
35- Fibroblast antiproliferative effect.
36- Headaches post-lumbar puncture reduction.
37- PARP-1 enzyme inhibition.
38- Plants protection.
39- Psoriasis medicament.
40- Testosterone increases in men.
41- Neonatal acute morbidities treatments.

**XVII - C - Caffeine is widely consumed in beverages and medicaments, in order to:**

**Contents:**
42- To sell mood-altering soft drinks and produce physical dependence on their users.
43- To obtain Central Nervous System stimulant effects, which is deceptive.
44- To increase the antinociceptive and antipyretic effects.
45- To medicate respiratory depression in apneic preterm neonates.
46- On foals neonates with hypoxic-ischemic encephalopathy.
47- To medicate postprandial hypotension.
48- To medicate obesity and promote lipolytic action in creams to cellulites.
49- To enhance seizure duration.
50- To determine the enzymatic capacity for its degradation.
51- To improve the endurance performance in competitions (ergogenic effect).
52- To obtain physiological processes stimulus and heating at cold climates (thermogenic response).
53- To obtain cognitive functions endurance and to stay awake.

*We conclude that caffeine is useful as a medicament to some people at some circumstances.*

**XVII – D – Wine**

**Contents:**
54- Wine drinks protects from Alzheimer.
55- Resveratrol.

**XVII - A – Decaffeinated coffee and tea:**
The beneficial health effects of drinking coffee and tea can be caused by the other chemical compounds that the decaffeinated coffee and tea have, besides the caffeine.

Decaffeinated coffee have two major active components: caffèic acid and chlorogenic acid. The polyphenols found in tea are more commonly known as flavonols or catechins. “Green tea infusions provide significant amounts of catechins:

- epigallocatechin gallate ranged from 117 to 442 mg/l,
- epicatechin 3-gallate from 203 to 471 mg/l,
- epigallocatechin from 16.9 to 150 mg/l,
- epicatechin from 25 to 81 mg/l and
- catechin from 9.03 to 115 mg/l.

Caffeine contents in the green tea infusions studied were between 141-338 mg/l.” (Reto M, and others).

**XVII - 1 - Blood pressure reduction:** “In spontaneously hypertensive rats... we found that intraduodenal injection of **decaffeinated oolong tea** lowered renal sympathetic nerve activity and blood pressure as well as oolong tea, indicating that substances other than caffeine contained in oolong tea may function as effective modulators of renal sympathetic nerve activity and blood pressure.” (Tanida M, and others).
**Cutaneous type-I allergic reaction:** “Three tea catechins, epigallocatechin, epicatechin gallate, and epigallocatechin gallate showed inhibitory effects on the passive cutaneous type-I allergic reaction of rat after oral administration. The inhibitory effects of epigallocatechin and epigallocatechin gallate on the passive cutaneous anaphylaxis reaction were greater than that of epicatechin gallate. Caffeine also showed a inhibitory effect on the passive cutaneous anaphylaxis reaction.” (Shiozaki T, and others).

**Diabetes type 2 risk reduction:** “The finding that higher consumption of decaffeinated coffee was associated with a lower risk of type 2 diabetes suggests that coffee constituents other than caffeine play a role. Coffee is a source of several compounds that improved glucose metabolism in animal studies, including the chlorogenic acids and lignans.” (van Dam R M).

Between “28 812 postmenopausal women free of diabetes and cardiovascular disease”, “coffee intake, especially decaffeinated, was inversely associated with risk of type 2 diabetes mellitus in this cohort of postmenopausal women.” (Pereira M A, and others).

“Black, green, and oolong teas ... were all shown to increase insulin activity. ... The majority of the insulin-potentiating activity for green and oolong teas was due to epigallocatechin gallate. For black tea, the activity was present ... in addition to epigallocatechin gallate, tannins, theaflavins, and other undefined compounds.” (Anderson A, and Polansky M M).

**Endothelial function improvement:** “In the hour following the ingestion of two cups of decaffeinated coffee, brachial artery flow-mediated dilation increased (mean+/−s.e.m.): 0 min, 7.4+/−0.7%; 30 min, 8.0+/−0.6%; 60 min, 10.8+/−0.8% as compared to consumption of one cup of decaffeinated coffee: 0 min, 6.9+/−0.7%; 30 min, 8.4+/−1.2%; 60 min, 8.5+/−1.1%. Blood pressure did not differ between groups, and basal heart rate was lower in the two-cup group at baseline and 60 min. Conclusions: The present study demonstrated a significant acute favorable dose-dependent effect of decaffeinated espresso coffee on endothelial function.” (Buscemi S, and others).

**Hearing threshold in diabetic neuropathy:** In diabetic mice, “Coffee or trigonelline ameliorated the hearing threshold shift and delayed latency of the auditory evoked potential in diabetic neuropathy. These findings demonstrate that coffee consumption potentially facilitates recovery from diabetes-induced auditory neuropathy. Furthermore, the active constituent in coffee may be trigonelline.” (Hong B N, and others).

**Ovarian cancer risk reduction:** “Black tea consumption was associated with a linear decline in ovarian cancer risk, with individuals consuming two or more cups daily experiencing a 30% decline in risk (OR 0.70). Similar declines were noted among individuals consuming two or more cups of decaffeinated coffee daily (OR 0.71). However, no association was noted between any level of regular coffee consumption and risk of ovarian cancer. The chemoprotective effects of phytochemicals in black tea and decaffeinated coffee may be important, although the effects of phytochemicals in regular coffee may be counteracted by the elevated risk associated with its higher caffeine content.” (Baker J A, and others).

**Parkinson's disease risk reduction:** “Coffee and tobacco, but not caffeine or nicotine, are neuroprotective in fly Parkinson's disease models... Decaffeinated coffee and nicotine-free tobacco are as neuroprotective as their caffeine and nicotine-containing counterparts... A known Nrf2 activator in coffee, cafestol, is also able to confer neuroprotection in our fly models of Parkinson's disease.” (Trinh K, and others).

“The primary metabolite of caffeine, paraxanthine (1,7-dimethylxanthine), was strongly protective against neurodegeneration and loss of synaptic function in a culture system of selective dopaminergic cell (neurons) death. In contrast, caffeine itself afforded only marginal protection.” (Guerreiro S, and others).
“Use of hormones was associated with a reduced risk of Parkinson’s disease among women with low caffeine consumption, and with increased risk among women with high caffeine consumption. Among hormone users, women consuming six or more cups of coffee per day had a fourfold higher risk of Parkinson’s Disease.” (Ascherio A, and others).

“Ever having smoked cigarettes was associated with a reduced risk of Parkinson’s disease. There was a reasonably strong inverse risk gradient for tea (two cups/day or more), a weaker inverse gradient for cola drinks (two or more cola drinks/day) with Parkinson’s disease risk”. (Checkoway H, and others).

“Black tea, a caffeine-containing beverage, showed an inverse association with Parkinson’s disease risk that was not confounded by total caffeine intake or tobacco smoking. Green tea drinking was unrelated to Parkinson’s disease risk. Ingredients of black tea other than caffeine appear to be responsible for the beverage's inverse association with Parkinson's disease.” (Tan L C, and others).

“We observed reduced risk for Parkinson's disease among ever smokers, current smokers, and ex-smokers”. (Dong J Q, and others).

“We found an inverse relationship between ever cigarette smoking and Parkinson’s disease. Among men, an inverse association (with Parkinson’s disease) was also present among subjects professionally exposed to pesticides.”(Galanaud J P, and others).

“Higher cigarette consumption was associated with lower risk of Parkinson’s disease.... Higher caffeine consumption was also associated with lower risk of Parkinson’s disease...Higher alcohol consumption was also associated with lower risk of Parkinson’s disease.” (Evans A H, and others).

To the patients already with Parkinson’s disease, ever smoking increases the incidence of Dementia: “Our study showed a positive association between smoking and dementia in the setting of Parkinson’s Disease.” (Levy G, and others).

Which physician, in order to prevent Parkinson’s disease, will prescribe:

- To all women that they must smoke more than 20 cigarettes a day for many years, drink alcohol and much black tea daily, and never use hormones?
- To all men that they must drink daily some pesticide (which one?), besides drinking alcohol, coffee and smoking? That would not cause any fright: caffeine also is a pesticide! The patient can die, but he will not suffer from Parkinson’s disease.

XVII- 8 -Rectal cancer risk reduction: “During almost 2 million person-years of follow-up, 1438 cases of colorectal cancer were observed. Consumption of caffeinated coffee or tea with caffeine or caffeine intake was not associated with the incidence of colon or rectal cancer. However, participants who regularly consumed two or more cups of decaffeinated coffee per day had a 52% lower incidence of rectal cancer than those who never consumed decaffeinated coffee.” (Michels K B, and others).

XVII- 9 - Retinal neuronal death atenuation: Orally administrated epigallocatechin gallate attenuates injury to the retina caused by ischemia/reperfusion where caspases were activated….it was shown that white light-induced apoptosis is caspase-independent and can be blunted by epigallocatechin gallate.”(Zhang B, and others).

XVII- 10 - Serum uric acid and hyperuricemia lowering: “Coffee consumption is associated with lower serum uric acid level and hyperuricemia frequency, but tea consumption is not. Total caffeine from coffee and other beverages and tea intake were not associated with serum uric acid levels The inverse association with coffee appears to be via components of coffee other than caffeine.”(Choi H K, and Curham G).

XVII - B – Caffeine alone, caffeine benzoate, and caffeinated coffee, tea and colas: Their effect can be caused by the caffeine alone, or by its sum up with the decaffeinated ones. As the caffeine is treacherous, the short-time good effects can turn into too bad effects in the long run. Some good effects only occur in the persons already resistant to the caffeine.
XVII-11 - Alzheimer's disease therapy: "Acute caffeine administration to both young adult and aged Alzheimer's disease transgenic mice... both plasma and brain Abeta levels are reduced by acute or chronic caffeine administration in several Alzheimer's disease transgenic lines and ages, indicating a therapeutic value of caffeine against Alzheimer's disease". (Cao C, and others).

XVII-12 - Cardiovascular mortality reduction for older people:
Only for those caffeine resistant people that did not present any serious damage from it until the age of 65 years, and without arterial hypertension, caffeine drinks may reduce only the cardiovascular disease mortality (Greenberg J A, and others). No significant protective effect was found in participants before 65 year-old, or in cerebrovascular disease mortality at any age.

To Japanese people between 40 and 79 year-old, “Green tea consumption is associated with reduced mortality due to cardiovascular disease.” (Kuriyama S, and others). Their statistics show that those Japanese, who have higher consumption of green tea, also have smaller consumption of coffee. As green tea has less caffeine than coffee, maybe the smaller daily intake of caffeine by those people caused those results. The same people higher consumer of green tea had an increase of gastric and lung cancer in men, and lung and colorectal cancer in women, which the authors did not comment.

In 817 men and women with more than 70-year-old, living in northern Finland, “the total mortality rate was inversely related to the number of cups (average volume, 125 ml) of coffee consumed daily.” (Happonen P, and others).

“In Saudi Arabia... Of the 3,430 men and women aged 30-70 years... 6.3% were classified as having indications of coronary heart disease. Those who did drink more than 6 cups of black tea (>480 ml) per day had a significantly lower prevalence of coronary heart disease than the nontea drinkers (OR = 0.49). There was a positive dose-response effect between tea consumption and coronary heart disease that was persistent after adjustment for various risk factors.” (Hakim I A, and others).

XVII-13 - Cognitive decline reduction: Only “women (aged 65 years and over) with high rates of caffeine consumption (over three cups per day) showed less decline in verbal retrieval, and to a lesser extent in visuospatial memory over 4 years than women consuming one cup or less.” (Ritchie K, and others). Between “1003 Japanese subjects aged > or =70 y...A higher consumption of green tea is associated with a lower prevalence of cognitive impairment in humans.” Smaller benefit was found for black or oolong tea, and no benefit for coffee. (Kuriyama S, and others).

Meanwhile, there is the opposite: On “923 healthy adults from the Lothian Birth Cohort 1936 Study, on whom there were intelligence quotient (IQ) data from age 11 years... Higher cognitive scores were associated with coffee consumption, and lower cognitive scores with tea consumption, but these effects were not significant in the fully adjusted model... The results suggest that the significant caffeine intake-cognitive ability associations are bidirectional-because childhood IQ and estimated prior IQ are associated with the type of caffeine intake in old age-and partly confounded by social class.”(Corley J, and others).

XVII-14 - Genetic composition and caffeine consumption: “The main target of caffeine action in the nervous system [adenosine A(2A) receptor (ADORA2A) 1083C-->T] is associated with habitual caffeine consumption. The probability of having the ADORA2A 1083TT genotype decreases as habitual caffeine consumption increases.” (Cornelis M C, and others).

XVII-15 - High-fat diet: “The results indicate the protective effect of green tea catechin and caffeine on the functions of brain and pancreas in mice fed a high-fat diet.” (Unno K, and others).

XVII-16 - Women suicide prevention: Between “86626 US female registered nurses aged 34 to 59 years in 1980, who were free of diagnosed coronary heart disease, stroke, or cancer,…the data suggest a strong inverse association between coffee intake and risk of suicide.” (Kawachi I, and others).
XVII-17 -Anal sphincter increased contraction: “Caffeine 3.5 mg/kg body weight in 200 ml of water resulted in stronger anal sphincter contractions both at basal period and during voluntary squeeze. The sensory threshold was also decreased, leading to an earlier desire to defecate.” (Lohsiriwat S, and others).

XVII-18 -Antibacterial activity: “Roasted coffee extract possesses antibacterial activity against a wide range of microorganisms, including Staphylococcus aureus and Streptococcus mutans, whereas green coffee extract exhibits no such activity.” “Caffeine synergistically enhances the antibacterial activity of alpha-dicarbonyl compounds and that glyoxal, methylglyoxal, and diacetyl in the presence of caffeine account for the whole antibacterial activity of roasted coffee.” (Daglia M, and others).

“The in vitro antimicrobial activity of commercial coffee extracts and chemical compounds was investigated on nine strains of enterobacteria… Caffeic acid and trigonelline showed similar inhibitory effect against the growth of the microorganisms. Caffeine, chlorogenic acid, and protocatechuic acid showed particularly strong effect against Serratia marcescens and Enterobacter cloacae… Trigonelline, caffeine, and protocatechuic acids are potential natural antimicrobial agents against Salmonella enterica. The concentrations of caffeine found in coffee extracts are enough to warrant 50% of the antimicrobial effect against Serratia enterica, which is relevant to human safety.” (Almeida A A, and others).

XVII-19 -Anti-cariogenic effects: “Cocoa polyphenol pentamers significantly reduce biofilm formation and acid production by Streptococcus mutans and S. sanguinis. Trigonelline, caffeine and chlorogenic acid occurring in green and roasted coffee interfere with S. mutans adsorption to saliva-coated hydroxyapatite beads. Studies carried out on green, oolong and black tea indicate that tea polyphenols exert an anti-caries effect via an anti-microbial mode-of-action, and galloyl esters of (-)-epicatechin, (-)-epigallocatechin and (-)-gallocatechin show increasing antibacterial activities.” (Ferrazzano G F, and others).

“Caffeinated coffee and tea intake (but not decaffeinated beverage intake) is associated with decreased incidence of nonmelanoma skin cancer... Treatment of mice with topical caffeine significantly diminished phospho-Chk1 (Ser317) staining and increased the number of mitotic cells that expressed cyclin B1 and caspase 3 in tumors, consistent with caffeine-induced lethal mitosis selectively in tumors.” (Lu Y P, and others).

XVII-20 -Antiviral activity:

a - Caffeine is a medicament anti-Human immunodeficiency virus type I (HIV-1): “In this study, we show that an inhibitor of ataxia telangiectasia and Rad3-related and ataxia telangiectasia mutated kinases, caffeine, can suppress replication of infectious HIV-1 strains, and provide evidence that caffeine exerts its inhibitory effect at the integration step of the HIV-1 life-cycle. We also demonstrate that caffeine-related methylxanthines including the clinically used compound, theophylline, act at the same step of the HIV-1 life-cycle as caffeine and efficiently inhibit HIV-1 replication in primary human cells.” (Nunnari G, and others).

b – “Coffee extracts exert inhibitory activities on the virus infection:

(1) a direct inactivation of the infectivity of virus particle (i.e., a virucidal activity) and

(2) the inhibition of progeny infectious virus formation at the late stage of viral multiplication in the infected cells.

Caffeine, but not quinic acid and chlorogenic acid, inhibited the virus multiplication to some extent, but none of them showed the virucidal activity, suggesting that other component(s) in the coffee extracts must play a role in the observed antiviral activity. In addition, the coffee extracts inhibited the multiplication of poliovirus, a non-enveloped RNA virus, but showed no virucidal effect on this virus.” (Utsonomiya H, and others).

XVII-21 -Bladder cancer: Studying Netherlanders with 55 to 69 year-old, “The data suggest a possible positive association between coffee consumption and bladder cancer risk in men and a probable inverse association in women. Tea consumption was inversely associated with bladder cancer. Total fluid consumption did not appear to be associated with bladder cancer.” (Zeegers M P, and others).
Brain injury following head trauma: “Caffeine... can be neuroprotective or neurotoxic depending on the experimental model or neurological disorder. We assessed serial cerebrospinal fluid concentrations of caffeine and its metabolites (theobromine, paraxanthine, and theophylline) from 30 adults with severe traumatic brain injury. Caffeine was detected in 24 of 30 patients, and the threshold (caffeine level of > or = 1 micromol/L (194 ng/ml) )was achieved in 9 patients. Favorable Glasgow Outcome Scale was seen more often in patients with cerebrospinal fluid caffeine concentration > or = versus < the threshold. Increases in cerebrospinal fluid concentrations of the caffeine metabolites theobromine and paraxanthine were also associated with favorable outcome.” (Sachse K T, and others).

“In models of perinatal brain injury, caffeine is neuroprotective against periventricular white matter injury and hypoxic-ischemic encephalopathy.” Meanwhile, “caffeine intake during early pregnancy increases the risk of miscarriage and fetal growth retardation”. (Rivkees S A, and Wendler C C).

Breast cancer: “Caffeine protects against breast cancer in women with a BRCA1 mutation (of the CYP1A2 genotype).” (Kotsopoulos J, and others). “Among 501 breast cancer patients… Chinese, Japanese and Filipino women in Los Angeles County…there was a significant trend of decreasing risk with increasing amount of green tea intake, adjusted odds ratios being 1.00, 0.71 and 0.53, respectively, in association with no, 0-85.7 and >85.7 ml of green tea per day...The benefit of green tea was primarily observed among subjects who were low soy consumers. Similarly, the protective effect of soy was primarily observed among subjects who were nondrinkers of green tea.”(Wu A H, and others).

Studying 14,593 Norwegian women then aged 35 to 49 years, “among the leaner women (body mass index less than 24), those who drank five or more cups of coffee per day had a 50% decrease in risk of breast cancer, as compared with those who drank two cups or less. Among the heavier subjects, the opposite relationship was observed: the women who drank the most coffee showed a twofold increase in risk.” (Vatten LJ, and others).

Breast carcinoma MCF-7, HT-29 colon carcinoma, A-427 lung carcinoma, UACC-375 melanoma: “From the aqueous-alcoholic extract of green tea leaves (dried unfermented leaves of Camellia sinensis, family Theaceae).... together with catechin, the three most potent components against all four tumor cell lines were epigallocatechin gallate, gallocatechin and epigallocatechin. Epigallocatechin gallate was the most potent of the seven green tea components against three out of the four cell lines (MCF-7 breast cancer, HT-29 colon cancer and UACC-375 melanoma).” (Valcic S, and others).

Cancer cells induction to death: “We found that 8-nitrocaffeine and its analog, which are candidate radiosensitizers for cancer therapy, induced exclusively caspase-independent necrotic cell death in cell lines such as U937, HL-60, K562 and Jurkat. The 8-nitrocaffeine-induced necrotic cell death was mediated by reactive oxygen species... Since cancer cells are often derived from a selected population of cells resistant to apoptosis, inducers of necrotic cell death could be beneficial to kill cancer cells that have acquired resistance to apoptosis-induction therapy.” (Naito M, and others).

Colon cancer: “Caffeine significantly inhibits adenosine-induced hypoxia-inducible factor-1alpha protein accumulation in cancer cells. Caffeine also significantly inhibits the A3 receptor-stimulated cell migration of colon cancer cells.”(Merighi S, and others).

Endometrial cancer: “In a population-based prospective cohort study in 53,724 Japanese women aged 40-69 years with no history of cancer at baseline in 1990-1994... During the 15-year follow-up period, we documented 117 cases of endometrial cancer. Coffee consumption was significantly associated with a decreased risk of endometrial cancer.” (Shimazu T, and others).

Hepatocellular cancer: “We found that caffeine inhibited the proliferation of hepatocellular carcinoma cells via cell cycle arrest independent of apoptosis... Our data reveal that caffeine could be a
promising candidate for the treatment of patients with hepatocellular carcinoma.” (Okano J, and others).

XVII-29 - Ovarian cancer: Caffeine lowers the risk of ovarian cancer, but only for women that do not use hormones: “An inverse association was observed between caffeine intake and ovarian cancer risk, particularly in women not using hormones.” (Tworoger S S, Gertig D M, Gates M A, Hecht J L, and Hankinson S E). Green tea lowers the risk of ovarian cancer: “Women who reported drinking >/=1 cup/d of green tea had a 54% reduction in risk”. (Song Y J, and others).

XVII-30 - Sarcoma and melanoma cancer: “Caffeine, which has a DNA-repair inhibiting effect, enhances the cytocidal effects of anticancer drugs and radiation…Caffeine-potentiated chemotherapy resulted in a favourable radiographic response and prolonged overall survival of the patients at all stages (on chemotherapy for high-grade soft tissue sarcoma).” (Takeuchi A, and others).

“On mice…the A2 receptors antagonists ZM241,385 and caffeine were found to enhance the antitumor effects of CD8+ T cells in studies of anti-CMS4 sarcoma CD8+ T cells in a lung metastasis model.” “Treatment with caffeine inhibits neovascularization and increases apoptosis of CL8-1 melanoma in mice.” “It is shown that ZM241,385 (or caffeine; data not shown) significantly delayed CL8-1 growth in WT (white?) mice, which developed anti-CL8-1 CD8+ T cells.” “…treatment with 1 ´106 CTL plus caffeine dramatically decreased the number of lung metastasis in mice on day 24.” “Our experiments may thus provide a molecular explanation for sporadic reports of anticancer properties of caffeine…”(Ohta A, and others).

“The osteosarcoma-bearing rats were treated with cisplatin and caffeine. The most growth inhibition was observed in the co-administration group. When three different dosing schedules of caffeine were given, the extent of tumor inhibition was closely correlated with the average plasma concentration of caffeine. The cisplatin concentration in the tumor was significantly increased when caffeine was co-administered. This study confirms that a high concentration of caffeine (about 0.4 mM) is effective in enhancing the antitumor effects of cisplatin.” (Kawahara M, and others).

XVII-31 - Skin cancer: “Our studies indicate that caffeine and caffeine sodium benzoate may be useful as novel inhibitors of sunlight-induced skin cancer.” (Conney A H, and others).

“Caffeine and Theophylline have been shown to exert anticancer activities in both cell culture and animal models. Meanwhile, 1-ethyl-3-hexylxanthine (xanthine 70) was the most effective compound for inhibiting epidermal growth factor induced neoplastic transformation.” (Rogozin E A, and others). This “xanthine 70” is not yet used as a medicament.

XVII-32 - Chemotherapy and radiotherapy enhancement: “Pemetrexed is a new generation antifolate approved for the treatment of mesothelioma and non-small cell lung cancer. Caffeine is known to augment radiation or chemotherapeutic drug-induced cell killing. Caffeine sensitization occurred only in cells subjected to pulse, but not continuous, exposure to pemetrexed. Similar pemetrexed sensitization was also observed with the clinically better tolerated caffeine analog, theobromine. These data indicate that caffeine and its analog, theobromine, may be a useful approach to enhance pemetrexed-based chemotherapy.” (Min S H, and others).

“These results demonstrate that enhancement of cytotoxic activity against cis-diamminedichloroplatinum-treated cells by caffeine is characterized by an acceleration of DNA degradation in G2 + M phase, namely apoptotic cell death.” (Shinomiya N, and others).

“Cellular modulation of the cell cycle with pentoxifylline and caffeine radiosensitized LS180 colon cancer cells exposed to 186Re radiation.” (Kinuya S, and others).

“1-methylxanthine significantly increased the radiosensitivity of RKO human colorectal cancer cells carrying wild type p53 mainly by inhibiting the repair of radiation-induced DNA DSB without causing significant alteration in radiation-induced G2/M arrest.” (Youn H, and others).
XVII- 33 -Cell death enhancement caused by hyperoxia: “Reactive oxygen species produced during hyperoxia damage DNA, inhibit proliferation in G1- through p53-dependent activation of p21(Cip1/WAF1/Sdi1), and kill cells... Addition of caffeine, which inactivates the G2 checkpoint, diminished the percentage of hyperoxic cells in G2 and increased the percentage in sub-G1 and G1. Abrogation of the G2 checkpoint was associated with enhanced oxygen-induced DNA strand breaks and cell death. Caffeine did not affect DNA integrity or viability of cells exposed to room air.” (O'Reilly M A, and others).

XVII- 34 -Erectile function improvement in diabetic rats: “The intracavernous pressure and the cavernous cyclic guanosine monophosphate decreased significantly in the diabetic rats compared to the normal controls. An 8-week administration of caffeine at the given dosages increased the intracavernous pressure and cavernous cyclic guanosine monophosphate in diabetic rats. In conclusion, caffeine consumption improved the erectile function of diabetic rats by up-regulating cavernous cyclic guanosine monophosphate.” (Yang R, and others).

XVII- 35 - Fibroblast antiproliferative effect: “We conclude that xanthine derivatives are good candidates for use as fibroblast antiproliferative drugs. Caffeine was the most active compound followed by theophylline and dyphylline.” (Levi-Schaffer F, and Touitou E.)

XVII- 36 - Headaches post-lumbar puncture reduction: (Post-spinal tap headache caused by Cerebrospinal Fluid’s dural leakage and its hypo-tension): “The use of intravenous caffeine benzoate (500 mg infusion over 1 h) also has been found to treat post-lumbar puncture headaches effectively in double-blind, controlled trials.” (Sucholeiki R, and Waldman A L).

XVII- 37 - PARP-1 enzyme inhibition: “The major caffeine metabolite 1,7-dimethylxanthine has significant PARP-1 (poly(ADP-ribose)polymerase-1 (E.C.2.4.2.30)) inhibiting activity in cultured epithelial and endothelial cells at physiological concentrations. This inhibition could have important implications for nutritional treatment of acute and chronic inflammatory pathologies, like prevention of ischemia-reperfusion injury or vascular complications in diabetes.” (Geraets L, and others).

XVII- 38 - Plants protection: “The effect of caffeine is bifunctional; direct interference with pest metabolic pathways, and activation of host defense systems. Transgenic tobacco plants, which produced caffeine up to 5 mug per gram fresh weight of leaves, and showed them to repel caterpillars of tobacco cutworms (Spodoptera litura). In the present study, we found that these transgenic plants constitutively expressed defense-related genes encoding pathogenesis-related (PR)-1a and proteinase inhibitor II under non-stressed conditions. We also found that they were highly resistant against pathogens, tobacco mosaic virus and Pseudomonas syringae. Expression of PR-1a and PR-2 was higher in transgenic plants than in wild-type plants during infection. Exogenously applied caffeine to wild-type tobacco leaves exhibited the similar resistant activity. These results suggested that caffeine stimulated endogenous defense system of host plants through directly or indirectly activating gene expression.” (Kim Y S, and Sano H).

XVII- 39 - Psoriasis medicament: “Topical caffeine is an effective, safe and inexpensive treatment for psoriasis, with a delay in action.” (Vali A, and others).

XVII- 40 - Testosterone increases in men: “Men with a high caffeine intake had approximately 14% higher concentration of testosterone than those with a low caffeine intake.” (Ramlau-Hansen C H, and others).

XVII- 41 - Neonatal acute morbidities treatments. “Caffeine is a silver bullet in neonatology. This ubiquitous trimethylxanthine... significantly impacts on major acute neonatal morbidities including apnea of prematurity, bronchopulmonary dysplasia, patent ductus arteriosus with or without surgical lig- ation and post-operative apnea. Potential uses in respiratory distress syndrome as suggested by im-
proved lung function in primate models is supported by the decreased time on mechanical ventilation
and need for oxygen therapy. Improved later outcomes at 18 to 22 months include clinically significant
decreases in cerebral palsy, cognitive impairment, and severe retinopathy of prematurity in those babies
who received caffeine during the neonatal period.” (Aranda J V, and others).

XVII - C - Caffeine is widely consumed in beverages and medicaments, in order to:

XVII- 42 -To sell mood-altering soft drinks and produce physical dependence in their users:
“The high rates of consumption of caffeinated soft drinks (which is an added ingredient in approxi-
mately 70% of soft drinks consumed in the United States) more likely reflect the mood-altering and
physical dependence-producing effects of caffeine as a central nervous system-active drug.” (Griffiths
R R, and Vernotica E M).
To sell caffeine is more profitable than to sell marijuana or cocaine, besides it is perfectly legal.
In the “colas” there are more than caffeine, to increase their addiction effect and their sells:
“There are suspicions that inside the soft drink “Coca-Cola” (Trademark) there is more than caffeine,
because this manufacturer buys some unknown product from the “Stepan Company”, and this company
buys Coca leaves from the state of Peru.” (Curtidor, D, and Souza M M). This doubt was clarified by
the German (North Renania state - Vestfalia) health authorities on May 2009, when they found 0.4 mi-
cro grams of cocaine per liter of “Red Bull” beverage (O Globo newspaper – May 26, 2009). This
dose does not cause pathological effects but increases its addiction effect and selling numbers.

XVII- 43 - To obtain Central Nervous System stimulant effects, which is deceptive:
“Caffeine administration improved the consumers' accuracy on the cognitive test to near the level
displayed by the non/low-consumers.” (Heatherley S V, and others).
Participants reported feeling more alert and less tired following acute ingestion of caffeine, but feel-
ing less alert in conjunction with chronic exposure to the drug. In addition, caffeine withdrawal was as-
associated with reported increases in frequency and severity of headache, and with reports of sleeping
longer and more soundly.” (James J E).
“In 15 subjects after overnight caffeine abstention… caffeinated beverages increased systolic blood
pressure, diastolic blood pressure, and skin conductance and lowered heart rate and skin temperature.
Significant dose-response relationships to caffeine were seen only for systolic blood pressure, heart
rate, and skin temperature. There were significant effects of caffeine on energetic arousal but no consist-
tent dose-response effects… Caffeinated beverages acutely stimulate the autonomic nervous system
and increase alertness. Although caffeine can exert dose-dependent effects on a number of acute auto-
nomic responses, caffeine level is not an important factor. Factors besides caffeine may contribute to
these acute effects.” (Quinlan P T, and others).

XVII- 44 - To increase the antinociceptive and antipyretic effects of paracetamol, the acute antiex-
udative effect of acetylsalicylic acid and aminophenazone. So, caffeine is used to prevent and medi-
cate headaches and any other aches, together with other drugs in medicaments, but this can be equiv-
ocal. The patient medicating with analgesics in addition to caffeine improves from his aches in few min-
utes, but the aches worsen after few hours, needing new doses of caffeine, turning the patient depend-
ent to it, while present increasing collateral effects from its use.
“While adding caffeine to analgesics increases the number of patients who become free from
headache, it also leads to more patients with nervousness and dizziness”. (Zhang W Y).
“Caffeine increased the analgesic effect of ibuprofen 200 mg, through an earlier onset of analgesic ef-
effect.”(McQuay H J, and others).

XVII- 45 - To medicate respiratory depression in apneic preterm neonates. Is this prematurity
caused by the caffeine drank by the mother? Are these premature neonates with apnea of prematurity
suffering because their withdrawal from the mother’s caffeine, and they depend from caffeine to sur-
vive? The administration of caffeine to preterm neonates has consequences, as seizures, brain cells
death, and persistent changes in respiratory control, besides others:
“Apnea of pre-maturity is common, occurring in 85% of infants born less than 34 week gestation. Oral caffeine is the most frequent form of therapy. Morphine is used to reduce the pain... We determined the effect of caffeine and morphine alone and in combination of cell death on the developing brain of the rat. Cell death... was significantly increased at 12 and 24 hour post-caffeine injection in the cortex, caudate, nucleus accumbens, hypothalamus, hippocampus and superior colliculus. No alterations were seen following morphine injection alone. However, in the thalamus, the combination of caffeine and morphine did increase cell death to a significantly greater extent than caffeine alone.” (Black A M, and others).

“Caffeine is an adenosine receptor antagonist that is commonly used in the clinic as a respiratory stimulant to treat apnea of prematurity. (There is) evidence indicating that neonatal caffeine treatment modifies respiratory control development and that these changes persist until adulthood.... current data indicate that caffeine treatment, especially during the perinatal period, alters adenosinergic neuromodulation of the respiratory control system.” (Montandon G, and others).

XVII- 46 -On foals neonates with hypoxic-ischemic encephalopathy: “Doxapram is more effective than caffeine for rapid correction of hypercapnia in foals with hypoxic-ischemic encephalopathy.” (Giguère S, and others).

XVII- 47 -To medicate postprandial hypotension.
Coffee, with and without caffeine, promotes the foods digestion, and prevents the postprandial hypnic effect.

XVII- 48 -To medicate obesity and promote lipolytic action on cellulites.
Caffeine is extensively used as a slimming medicament. Drinking caffeine daily, the patient loses fat but gains small diffuse edemas and many headaches.
“In the 32 cellulite creams tested, Caffeine was present in 14 products, and was the most common additive, apparently representing an "active" ingredient.” (Sainio E L, and others).
“Emulsion with Siloxanetriol alginate caffeine was considered more indicated to promote the lipolytic action on fatty tissue, acting as a complement to treat cellulite.” (Velasco M V, and others).

XVII- 49 -To enhance seizure duration in electroconvulsive therapy.

XVII- 50 -To determine the enzymatic capacity for its degradation and elimination by the patient, together with other intoxicants.
“Cytochrome P4501A2 (CYP1A2) and N-acetyltransferase 2 (NAT2) are key enzymes in the metabolism of caffeine. Gluthatione S-transferase alphal may also be active in the metabolism of caffeine.” (Bech B H, and others).
Individuals who are homozygous for the Cytochrome P4501A2*1A allele are "rapid" caffeine metabolizers, whereas carriers of the variant Cytochrome P4501A2*1F are "slow" caffeine metabolizers, ascribed to differences in the activities of the arylamine acetylatyng enzymes (isozymic N-acetyltransferase variants) of the liver, intestinal mucosa and other tissues. The acetylator status is determined by measuring the peak height ratio of two urinary caffeine metabolites, 5-acetylamino-6-formylamino-3-methyluracil and 1-methylxanthine, one to four hours after drinking a strong cup of coffee.
The classification of the patient as slow or rapid acetylator has statistical correlations with many diseases.
“The slow acetylator (N-acetyltransferase phenotype) status is related with:
● Increased risk of certain side effects in slow acetylators treated with isoniazid (particularly peripheral neuropathies and lupus erythematosus).
● Hypersensibility reactions with sulfonamides (including Lyell and Stevens-Johnson syndromes),
● Poor tolerance to sulfasalazine and dapsone.
● Risk of developing primitive liver cancer.
● Predisposition to mesothelioma in subjects exposed to asbestos.
● Predisposition to atopic diseases.
Increased frequency of Parkinson's disease.
The fast acetylator status is related with:

- Myelotoxicity induced by amonafide.
- Increased risk of nephropathy on non-smoking type 1 diabetics.” (Furet Y, and others).

“Significant differences in the proportion of rapid acetylators were observed between type 1 (53.6%) and type 2 (33.7%) diabetics, and between the control group (26%).” (el-Yazigi A, and others).

“Women with slow N-acetyltransferase 2 (NAT2) and rapid cytochrome P450 1A2 (CYP1A2) activity were at highest risk relative to women with rapid NAT2 and slow Cytochrome P450 1A2 activity, for lung adenocarcinoma.” (Seow A, and others).

“Cytochrome P450 (CYP1A2) enzyme activity was determined in healthy Swedish and Korean subjects, on the basis of the 4-h plasma paraxanthine/caffeine ratio. The mean ratio was 1.54-fold higher in Swedes than in Koreans. Smokers had a significantly higher ratio (higher CYP1A2 activity) than non-smokers, while Swedish oral contraceptive users had a significantly lower ratio than non-users. Koreans displayed a significantly lower mean ratio than Swedes having the same CYP1A2 genotype, smoking habit and oral contraceptive use. None of the investigated CYP1A2 haplotypes are critical in inducing variations in enzyme activity, with the exception of CYP1A2*1F.” (Ghotbi R, and others).

“Daily consumption of at least three cups of coffee significantly increased Cytochrome P450 1A2 enzyme activity in both Serbs (P = 0.0002) and Swedes...Significantly higher plasma paraxanthine/caffeine (17X/137X) ratio was detected in Serbian smokers compared to non-smokers...Habitual heavy coffee consumption increases Cytochrome P450 1A2 activity. Polycyclic aromatic hydrocarbons formed during roasting of coffee beans might partly be responsible for this effect.” (Djordjevic N, and others).

To improve the endurance performance in competitions (ergogenic effect):

- **Caffeine** improves performance and endurance during prolonged, exhaustive exercise. To a lesser degree, it also enhances short-term, high-intensity athletic performance. Caffeine improves concentration, reduces fatigue, and enhances alertness.” (Paluska S A).

“During prolonged exercise in the heat, caffeine ingestion (6 mg/kg body weight) maintains maximal voluntary contraction and increases maximal cycling power despite dehydration and hyperthermia. When combined with water and carbohydrate, caffeine ingestion increases maximal leg force by increasing voluntary activation (i.e., reducing central fatigue).” (Del Coso J, and others).

“Athletes competing at the 2005 Ironman Triathlon World Championships... typically finish with quantities of caffeine that have been shown to improve endurance performance (i.e., approximately 20 micromol/L or a dose of > or = 3 mg/kg body weight)”. (Desbrow B, and Leveritt M).

“Some of the reported interactions of caffeine, irrespective of clinical relevance, might inadvertently cause athletes to exceed the urinary caffeine concentration limit set by sports authorities at 12 mg/L.” (Carrillo JA, and Benitez J).

Meanwhile, this has collateral effects: “Subjects ingested one dose of dietary supplements (Ripped Fuel Extreme Cut(R) with 21 mg synephrine and 304 mg caffeine by analysis) 1 hour prior to moderately intense exercise (30 min on cycle ergometer at 75-80% HR(max)). Post-exercise diastolic blood pressure was higher (peak mean 71.7 +/- 8.7 mmHg). Plasma glucose increased to 121.0 +/- 31.6 mg dl(-1). Exercise was rated less difficult.” (Haller CA, and others).

“Twenty-four professional rugby-league players ingested caffeine doses of 0, 200, 400, and 800 mg in random order 1 hr before a resistance-exercise session...Testosterone concentration showed a small increase of 15% (+/- 19%) during exercise. The 800-mg dose also produced a moderate 52% (+/- 44%) increase in cortisol. The effect of caffeine on the testosterone: cortisol ratio was a small decline (14%; +/- 21%).” (Beaven CM, and others).

The ergogenic effect is small: “15 well-trained and 15 recreational runners completed two randomized 5-km time-trials, after ingestion of either 5 mg/kg of caffeine or a placebo. Caffeine ingestion significantly improved 5-km running performance in both the well-trained and recreational runners. In comparison to the placebo trial, the caffeine trial resulted in 1.1% and 1.0% faster times for the well-trained and recreational runners.” (O'Reourke MP, and others).
XVII -52- To obtain physiological processes stimulus and heating at cold climates (thermogenic response).

“Consumption of 400 ml hot tea, coffee, and water beverage with/without 100 mg caffeine and milk, rapidly increased skin conductance and temperature (+1.7 degrees C). Caffeine in the beverage increased systolic blood pressure (+2.8 mmHg) and diastolic blood pressure (+2.1 mmHg) 30-60 min post-consumption. Both caffeine and milk addition to beverages independently improved mood and reduced anxiety 30 and 60 min post-consumption. Tea potentiated the increase in skin temperature compared to coffee and water, plausibly related to the presence of flavonoids in tea. We conclude that ingestion of hot caffeinated beverages stimulates physiological processes.” (Quinlan P, and others).

On “Twelve healthy, normal weight men (age: 23.7 +/- 2.6 years, mean +/- s.d.)...Caffeine (50 mg) induced a thermogenic response of 6% above baseline value (72 +/- 25 kJ per 4 h, mean +/- s.e.).” (Belza A, and others).

XVII -53- To obtain cognitive functions endurance and to stay awake: Caffeine disrupts sleep and increases arousal. Meanwhile, there are placebo effect, the need to repeat its ingestion, and collateral effects.

“The ingestion of caffeinated beverages may maintain aspects of cognitive and psychomotor performance throughout the day and evening when caffeinated beverages are administered repeatedly. Day-long tea consumption produces similar alerting effects to coffee, despite lower caffeine levels, but is less likely to disrupt sleep.” (Hindmarch I, and others).

“Even in the most adverse circumstances (during exposure to severe stress), moderate doses of caffeine can improve cognitive function, including vigilance, learning, memory, and mood state. A dose of 200 mg appears to be optimal under such conditions.” (Lieberman H R, and others).

“During the tasks, the task performance of the caffeine group was better than that of the placebo group. However, after the fatigue-inducing tasks, plasma branched-chain amino acid levels in the caffeine group were lower than those of the placebo group.” (Ataka S, and others).

“Like adults, children probably derive little or no benefit from habitual caffeine intake, although negative symptoms associated with overnight caffeine withdrawal are avoided or rapidly reversed by subsequent caffeine consumption.” (Heatherley S V, and others).

“We conclude that caffeine is useful as a medicament to some people at some circumstances:
1. Each one coffee, tea, caffeinated soft drink, decaffeinated coffee, medicament with caffeine, etc, as they have different compositions besides the caffeine, they also have some different effects.
2. As any medicament, caffeine has beneficial indications, warnings, relative and absolute contraindications.
3. Caffeine has collateral effects that arise and worsen with high dosage and protracted use.
4. The individual endurance or sensibility to caffeine depends from his enzymatic detoxifying activity, which is consequent to the genetic (inherited) characteristics and other simultaneous hormones, medicaments or toxins that he is receiving.
5. Properly used as a medicament, caffeine is helpful. Indiscriminate and heavily everyday used for years or decades, caffeine causes toxic effects and more than 400 signs, symptoms and sicknesses, besides many headaches and migraines.
6. At the countries where the very cold climate turns hot beverages with caffeine useful to life, their continual daily use for more than one hundred years probably reduced there the persons more sensible to the caffeine intoxication. Most people now living at the very cold countries must be resistant to the caffeine deleterious effects, or only present the caffeine's sicknesses after their reproductive age.
7. Caffeine is poisonous to normal cells, it causes cancer, but it is more poisonous to cancer cells. So, caffeine “protects” partially the patient from the development of the cancer he already has.
XVII -54- Wine drinks protects from Alzheimer: Studying for 4 years “980 community-dwelling individuals (from New York City) aged 65 and older without dementia at baseline”, Luchsinger J A, and others, found: “Consumption of up to three servings of wine daily is associated with a lower risk of Alzheimer's disease in elderly individuals without the apolipoprotein E epsilon-4 allele.” Do you have this apolipoprotein E epsilon-4 allele?

XVII -55- Resveratrol: To the patients that drink wine and justify with the Resveratrol benefit, we advise to drink grape juice, which is healthier and it has the same Resveratrol.

XVIII – Therapy of the Ocular, Cerebrospinal and Inner ears Fluids Hypertension Syndromes

Contents:

a) We medicate all the patients to eliminate their repeated migraines.
b) The main objective of the treatment for all the three Fluids Hypertension Syndromes is to lower the Intraocular, Inner Ears and Cerebrospinal Fluids' pressures.
c) We prescribe the reduction of any excessive liquid drinks.
d) We prescribe the abstinence of wine and beer drinks.
e) We prescribe the reduction of visual strain.
f) We prescribe the use of precise spectacles and contact lenses.
g) We prescribe to withhold or the reduction of coffee, tea, caffeinated soft drinks, chocolate and caffeinated medicines.
h) We prescribe the reduction of emotional stress, preferentially without remedy.
i) We prescribe the treatment of the patient’s visceral disturbances.
j) We prescribe do not eat hard digestible meals before the sleeping hours.
k) We prescribe to shut off the light and television set at bedtime.
l) We prescribe to reduce, or to stop whenever possible, every drug that raises the intraocular or Cerebrospinal fluid pressures.
m) We prescribe to regularize the sleeping hours.
n) We prescribe physical working or exercises.
o) Respiratory exercises prevent migraines, glaucoma, and perhaps cardiac strokes and other sicknesses.
p) Medicines to lower the Ocular, Cerebrospinal and Inner Ears Fluids Hypertension Syndromes.
q) We never prescribe to the migraine patients other medicines, therapies or surgeries.
r) We educate all patients, teaching the etiologies which they need to avoid.
s) Weighting loss therapy is unnecessary.
t) Headache associated with sexual activity. Intercourse headache.
u) Most of our migraine patients have cured.
v) We control the treatment’s efficacy.
w) Migraines' therapeutic paradox.
x) Hospitalization improves the migraines.
y) Surgeries that improve the sicknesses of the Fluids Hypertension Syndromes.
z) Therapeutic difficulties.
aa) When the headache continues.
bb) Consequences of our treatment.
cc) “Idiopathic”, “Age-related”, “Primary”, “Allergic” and other sicknesses denominations.

XVIII- a -We medicate all the patients to eliminate their repeated Migraines, headaches, itching eyes, tearfulness, rhinitis, sneezing, conjunctivitis, blepharitis, eyelid edema, photophobia, etc. Consequently the patients stop spending their time and money with other consultations, exams and useless medicines, clinical and surgical treatments, and most important, they stop years of sufferings.
We medicate the patient’s sufferings, not any exam. We medicate the patient who presents any sign or symptom of the Fluids Hypertension Syndromes, irrespective to any exam.

We medicate the patient who presents intraocular pressure at the office of 22 mmHg or more, denominated as Ocular Hypertension, irrespective to any other exam, to prevent the Normal (Peak) Tension Glaucoma, to cure his headaches and variants, and to recover in some patients their small temporary reduction of visual acuity.

We do not wait until the Glaucoma establishes its damage in the patient’s eye to medicate him. There is no use to discover whether the eye is pre-perimetric or already has perimetric visual glaucomatous damage. The visual field exam is only useful to the perimeters manufacturers, and not to the patient. To become a “perimetric glaucoma” the patient already has lost 40% to 50% of his retinal ganglion cells, as already was demonstrated: In Rhesus monkeys, “ganglion cell losses of 40% to 50% were necessary before visual sensitivity losses exceeded the normal 95% confidence limits.” (Harwerth R S, and others). In humans, this also was demonstrated analyzing the retinal visual fibers in comparison with the perimetric visual damage in the glaucoma patients.

As this damage is irreversible and the patient is suffering now, we medicate him now. We prevent the patient’s future glaucoma together with curing his migraines. The ophthalmologist that does not care the patient’s sufferings, while his perimeter does not confirm the glaucomatous visual field damage, is only a slave from the merchandising of the perimeter manufacturer. This physician is not fulfilling his Hippocratic oath: “I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone.”

We medicate the “Normal” (peak) tension glaucoma with the diet, and they stop their evolution. Clinically, they cure.

It is cheaper to cure the migraines and to prevent the glaucoma, before it is advanced. The medical and economic orientation, which in order to shorten expenses, recommend to avoid treatment to the patient with rise of the intraocular pressure until confirmed his glaucoma, forget the high cost of the patient suffering with migraines and variants. The prescription of medical treatment only to the advanced glaucoma is not a good medicine. Is it any medicine? Which one?

Many surgeries are harmful. The nowadays medicine also does many harmful and incorrect surgeries to “allergic” diseases, migraines and variants. A surgery only may be acceptable after the patient has stopped all his vicious daily drinks, used the medicament, and did not cure. We had cured almost all of our patients without any surgery or medicament: only with diet, besides their glasses. And we are ophthalmologists, not nutritionists.

XVIII - b - The main objective of the treatment for all the three Fluids Hypertension Syndromes is to lower the Intraocular, Inner Ears and Cerebrospinal Fluids’ pressures all the hours and all the days of the patient’s life, minimizing their diurnal fluctuation and eliminating any pressure peak, in order to improve the patient’s sufferings. When the patient is suffering with the caffeine intolerance, withdrawing this poison from his life cures most of his sufferings. His already definitive lesions remain stable and stop worsening.

The most effective therapy to all Migraines, sicknesses, other signs and symptoms is removing the etiologies from the patient. It does not matter the migraine’s name, classification, site, frequency, triggers, ethnology, or other characteristics. We cure the patient removing the etiologies, and the patient never more needs to worry about the triggers or the migraines. It is a small lifestyle change for the elimination of the patient’s sufferings. As the migraines are consequent to the simultaneous effects of many etiologies together, removing the etiologies which can be removed, the other etiologies which remain can not cause more any migraine. Those remaining etiologies become only “risk factors”.

We pretend to eliminate the intraocular pressure peaks. This cures the ocular migraines besides preventing the glaucoma. In the patient with Ocular Hypertension Syndrome or Normal (Peak) Tension Glaucoma, we attempt to reach an intraocular pressure of 16 mmHg or lesser in our physician’s office. Accomplishing this, the patient shall no more surpass too much this pressure on the other hours, when his intraocular pressure raises outside the office, as with drinks, sleeping and awakening hours. Besides the diet, it is possible to use anti-glaucomatous eye drops.
Other authors studying Normal (Peak) Tension Glaucoma patients, suggested additional therapies instead of pure lowering of the patient’s intraocular pressure: “We believe treatment should be directed to the other abnormalities these patients generally have, such as gastrointestinal lesions, anemia, congestive heart failure, orthostatic hypotension, transient cerebral ischemic attacks, and cardiac arrhythmias. Sound general management will ensure maximal perfusion of the Optic Nerve heads.” (Chumbley L C, and Brubaker R F).

“Lower perfusion pressure (blood pressure minus intraocular pressure) was strongly associated with an increased prevalence of primary open-angle glaucoma, with a six fold excess for those in the lowest category of perfusion pressure.” (Tielsch J M, and others).

For the patients with Cerebrospinal and Inner Ears Fluids Hypertension Syndromes we do not have any benchmark to the fluid pressures. We treat these patients with the diet, without any objective exam, controlling only by their signs and symptoms improvement. We do not medicate the patient with only 0.25 Optic Nerve’s borders edema without any other sign or symptom.

The treatment of Ménière’s disease is similar to the Fluids' Hypertension Syndromes: “The symptoms of the disease (Ménière) are often controlled successfully by reducing the body’s retention of fluids through dietary changes, such as a low-salt or salt-free diet and no caffeine or alcohol, or medicine... Eliminating tobacco use and reducing stress levels are more ways some people can lessen the severity of their symptoms.” (National Institute of Deafness and Other Communication Disorders).

XVIII- c - **We prescribe the Reduction of any Excessive Liquid drinks**, as water, juices, soft drinks, milk, tea, etc.

We prescribe to avoid drinking more than 1,200 milliliter (3 pint) a day.

We recommend to drink only 100 milliliter (3 fluid ounces), or half glassful, of some liquid each time the patient feels thirsty.

We recommend do not drink anything without being thirsty, after dinner, or before sleeping.

When the patient says that he has too much thirst, to reduce this we recommend to reduce the salt in the food.

Nearly half patients with all Migraines cure only with this liquid restriction, without any other medicament.

All the Glaucoma medicaments and surgeries are more efficient if the patient also restricts the liquids drinks.

The patient with Normal (Peak) tension or High-tension Glaucoma, who does not reduce his excessive drinks, usually fails to fix the evolution of his glaucomatous damage (glaucomatous Optic neuropathy). “Patients at the office even with intraocular pressure of only 13.8 mmHg on Normal-tension glaucoma still present worsening of their visual field defects after 5 years”. (Inatani M and others).

The patient with renal stones needs the excessive liquid drinks during the time the stones are been expelled, but not as a lifelong prevention.

Excessive water drank does not prevent constipation: “Neither dietary fiber intake nor intakes of total water and water from fluids were associated with constipation. Conversely, low intake of water from foods was associated with an increasing prevalence of constipation.” (Murakami K, and others).

The hospitalized patient that receive overhydration can aggravate their Migraines and any definitive damage caused by the Fluids Hypertension Syndromes.

XVIII- d - **We prescribe the Abstinence of Wine and Beer drinks.** The patient may drink small volume of pure distilled drinks, without raising the intraocular pressure and without Migraines. To the patients that drink wine and justify with the Resveratrol benefit, we advise to drink grape juice that is healthier and has in it the same Resveratrol. Some patients only stop their pleasant drinks when begin to become blind, when it is too late.

XVIII- e - **We prescribe the Reduction of the Visual Strain:**

- Reduction of visual work, as on dark as on light conditions.
- Reduction the dark glasses use to the strictly necessary.
- Rest the eyes for some minutes, when the patient feels the symptoms of visual tiredness.
- Shorten the excessive TV and computer use.

XVIII- f - We prescribe the use of precise spectacles and contact lenses, never permitting myopia overcompensation or insufficient hyperopia or Presbyopia correction.

Some patients who had refractive surgery, with thinner and less resistant corneas, the corneal curvature may fluctuate secondarily to the intraocular pressure variations, consequently changing their ocular refraction. After lowering the intraocular pressure with the medication, it may be necessary to update the glasses.

XVIII- g - We prescribe to withhold or the reduction of coffee, tea, caffeinated soft drinks, chocolate and caffeinated medicaments.

We prescribe drinks of decaffeinated coffee, except for the patient with gastritis.

We prescribe drinks of fruits juices. We warn against the juices with caffeine, as “Açai with Guaraná.”

Without the complete withdrawal of caffeine, the patient's cure will not be complete. To the very sensible patients, even only one small cup (50 milliliters) of caffeine per day is too much and make them sick.

Caffeine is poisonous and treacherous! Caffeine relieves the headaches and migraines' aches in minutes, but it worsens them after some hours or at the next day, besides all other sicknesses it causes.

The medical prescription of caffeine to patients in order to medicate their migraines is a big mistake. We had patients after months or years of self-medicating with caffeinated over-the-counter analgesics, with shorter effect and chronically worsening their aches after few hours of each tablet. The association with caffeine turns the analgesic effect stronger, but at the next 2 to 3 hours, the caffeine poisoning or worsening effect on the fluids hypertension syndromes is bigger than before the medicament. This caffeine worsening effect compels the patient to use the same caffeinated analgesic the next hours and days, and the next, and the next…until some definitive damage happens. The patient becomes slave from the caffeine. This is an addiction to the caffeine.

The list of the Brazilian trademarks medicaments with caffeine, ranging from 30 mg up to 65 mg in each tablet, included in the “Dicionário de Especialidades Farmacêuticas 2005/2006” and some over-the-counter medicaments, is attached at the end of this e-book.

We also attached at the end of this e-book some Brazilian trademarks soft drinks supposed with caffeine, because most of them do not mention caffeine on their labels.

At the United States, there are more than 250 soft drinks with caffeine. (Energy fiend).

“Caffeine & Chronic Pain”

“Getting off caffeine can reduce your pain, and sometimes eliminates pain. Cutting down from a lot to a little helps; going from a little to nothing helps even more. Many people are sensitive enough to caffeine that a small amount makes a big difference in their pain and tension. Green tea or chocolate are enough to cause pain for many people. The only way to find out what effect caffeine has on you is to stop using it.”

“SPECIAL OFFER! FREE! ACT NOW!
Discover a new you, for free, in the comfort of your own home!
Get off caffeine.” (Rothstein J).

Caffeine withdrawal usually causes abstinence symptoms that begins on the first day, and endures until one week. The most common abstinence symptoms are strong headaches, aches in all the body, fatigue, anxiety, depression, and strong backaches that can endure one to two weeks. The patient who surpasses the week of withdrawal sufferings, after one month he becomes free from the caffeine, and from all migraines and variants. Many patients do not overcome these symptoms and drink caffeine again, and again... because they are dependent on caffeine. The best withdrawal from caffeine is sudden. Many patients who try the caffeine progressive reduction, can not stop drinking it. Caffeine is a strong vicious drug.
Smoking, caffeine, and migraines: We did not find any direct relation from smoking with the Fluids Hypertension Syndromes. We did find indirect relation, because smoking causes psychological needs (or craving) to drink coffee, and the caffeine is the main etiology of the Fluids Hypertension Syndromes.

Migraines’ cure: After one month without caffeine, the patients greatly improve or cure their migraines and all the other migraine variants, alternative signs and symptoms. Their intraocular pressures reduce none or up to 4 mmHg. We noted that even those patients that presented the same or increased the intraocular pressure without caffeine, after one month their aches reduced or cured. These aches are caused so by the Fluids Hypertension Syndromes, so by the caffeine's neuritis.

We concluded that caffeine is an aches (pain) intensifier, besides its contribution to the Fluids Hypertension Syndromes.

In our patients, we do not know how much their Cerebrospinal Fluid’s and Inner ears’ pressures reduced: there is no clinical way to measure them. Meanwhile, the migraine's cure is evident.

Improving sleep hygiene: The physician that prescribes to the patient to stop his caffeine which is disturbing his sleep, cures him. This cure has few with the behavioral sleep instructions, but has a lot with the caffeine withdrawal.

Religious opinion: We found healthy the Latter-Day Saints Church stands on caffeine and cola drinks: “We know that cola drinks contain the drug caffeine. We know caffeine is not wholesome or prudent for the use of our bodies. It is only sound judgment to conclude that cola drinks and any others that contain caffeine or other harmful ingredients should not be used.” (Peterson, H B).

Public Health authorities manifests:

At the USA:
“TITLE 21--FOOD AND DRUGS
CHAPTER I--FOOD AND DRUG ADMINISTRATION, DEPARTMENT OF HEALTH AND HUMAN SERVICES (CONTINUED)
PART 182--SUBSTANCES GENERALLY RECOGNIZED AS SAFE--Table of Contents
Subpart B--Multiple Purpose GRAS Food Substances
Sec. 182.1180 Caffeine.
(a) Product. Caffeine.
(b) Tolerance. 0.02 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in cola-type beverages in accordance with good manufacturing practice.” (Code of Federal Regulations).

We entirely agree with the words of Reissig C J, and others, from the Department of Psychiatry and Behavioral Sciences, the Johns Hopkins University School of Medicine, Baltimore, USA:

“Hundreds of different brands (of energy drinks) are now marketed, with caffeine content ranging from a modest 50 mg to an alarming 505 mg per can or bottle. Regulation of energy drinks, including content labeling and health warnings differs across countries, with some of the most lax regulatory requirements in the U.S. The absence of regulatory oversight has resulted in aggressive marketing of energy drinks, targeted primarily toward young males, for psychoactive, performance-enhancing and stimulant drug effects. There are increasing reports of caffeine intoxication from energy drinks, and it seems likely that problems with caffeine dependence and withdrawal will also increase. In children and adolescents who are not habitual caffeine users, vulnerability to caffeine intoxication, dependence, and withdrawal may be markedly increased due to an absence of pharmacological tolerance. Genetic factors may also contribute to an individual's vulnerability to caffeine-related disorders including caffeine intoxication, dependence, and withdrawal. The combined use of caffeine and alcohol is increasing sharply, and studies suggest that such combined use may increase the rate of alcohol-related injury. Several studies suggest that energy drinks may serve as a gateway to other forms of drug dependence.”
At England:

“Agency issues caffeine advice to pregnant women:
Pregnant women should limit their caffeine intake to less than the equivalent of four cups of coffee a day, the Food Standards Agency has warned.
An intake of more than 300 mg a day - equivalent to six cups of tea or four cans of energy drink - may be associated with miscarriage, according to the Agency's advice.
The new advice puts a figure for the first time on previous Department of Health guidance for pregnant women to 'moderate' their caffeine consumption. It follows an independent review which found that caffeine intakes above 300 mg a day, or four cups of instant coffee, may be linked with low birth weight as well as miscarriage.” (Food Standards Agency).

Soft drinks on Croatian high schools: “Only 10% of 571 high school students did not use food-stuffs containing caffeine. The intake of caffeine originated from soft drinks (50%), coffee (37%), and chocolate (13%). The mean estimated caffeine intake was 62.8 mg/day. Large-scale public health measures are needed to inform the public on health issues related to excessive intake of caffeine-containing foodstuffs by children and adolescents.” (Valek M, and others).

Here at Niterói, Rio de Janeiro state, Brazil, there are some schools forbidding soft drinks to their students. Which is the orientation of your children’s school?
Which is your orientation to your children? Do you buy soft drinks to them? Are there soft drinks in your domestic refrigerator?

XVIII- h -We prescribe the Reduction of Emotional Stress, preferentially without medicament.
It seems that all psychotropic medicaments increase the intraocular, cerebrospinal and probably the inner ear fluids’ pressures, and consequently they are contraindicated to these patients.
We do not know which psychotropic medicaments raises more or less the fluids’ pressures. If the intraocular pressure rises above 21 mmHg, or the Optic Nerve’s borders edema increases to 1 dioptre or more, these medicaments can reduce the Migraine by converting the patient less sensible to it (Graph V-1), but increasing the possibility of definitive Optic nerve’s damage and blindness without symptoms.

XVIII- i -We prescribe the treatment of patient’s Visceral Disturbances. When necessary, we prescribe medicaments that facilitate the intestine evacuation. This prevents the need of strong Valsalva maneuver daily, and also prevents the chronic intoxication from feces constipation.

XVIII- j -We prescribe do not eat hard digestible meals before sleeping hours.
We prescribe eating a balanced diet in moderate amounts at regular intervals. The dinner or any meal at the day’s end must be easily digestible, and occurs 3 hours or more before the sleeping time. The patient must sleep with digestive rest.
The prescription of Ayurveda to Migraines: “Avoid hot, spicy foods, fermented foods, and sour or citrus fruits. A pitta-soothing diet is effective both for migraine relief and as a preventive measure.”

XVIII- k -We prescribe to shut off the light and television set at bedtime: This prevents resting one arm and forearm over the eyes while sleeping.

XVIII- l -We prescribe to reduce, or to stop whenever possible, every drug that raises the intraocular or Cerebrospinal fluid pressures, as vasodilators, corticosteroid, estrogen, caffeine, psychotropic.
“More than half of patients with migraine use over-the-counter medicament.” (Arunagiri, G; Santhi, S). The patient must avoid any medicament with caffeine included in the same tablet.
XVIII- m -We prescribe to regularize the sleeping hours, nor too few, and very important, nor too much, because the intraocular pressure raises as more as longer is the sleeping time. The patient must stand up and do anything that uses his physic. The intraocular pressure, and probably the Cerebrospinal Fluid and Inner ears pressures get lower on the standing position. Lying on bed is a worsening condition to all head's fluids pressures and migraines.

XVIII- n -We prescribe physical work or exercises. You do not need to mark points, or time, or win, or to supplant anybody. Feel your body and exercise him as long as you feel better.

The exercises at upright position lessen the intraocular pressure. “A mean fall in ocular tension of 4.5 mm. was found in both right and left eyes (in open-angle glaucoma) after walking. The higher the ocular tension before walking, the greater was the fall.” (Leighton DA).

Strenuous exercises lower the intraocular pressure: “Intraocular pressure decreased significantly (during strenuous exercise) and returned to baseline level 3 hr. after its completion. The maximal average reduction was 4.1 mmHg, 26.5% below the baseline level. The intraocular pressure decreased again 48 hr after the exercise and returned to baseline level 48 hr later.” (Ashkenazi I, and others).

“The amount of intraocular pressure reduction after short-term exercise seems to depend on the intensity of exercise, not on the duration of exercise or the quantity of exercise.” (Kiuchi Y, and others).

“The mechanism for lowered intraocular pressure in exercise is secondary to hyperventilation... exercise induced a fall in intraocular pressure from 18.3 to 15.6 mmHg (that) persisted for 15 min after the exercise session... Isocapnic conditions abolished the exercise-induced ocular hypotension. Prevention of hypocapnia during isometric handgrip exercise blocks the subsequent fall in intraocular pressure, suggesting both that isometric exercise per se has no direct influence on intraocular pressure and that therapy for ocular hypertension could involve manipulation of blood gases.” (Harris A, and others).

XVIII- o -Respiratory exercises prevent migraines, glaucoma, and perhaps cardiac strokes and other sicknesses:

The hypoxia (low oxygen gas (O2)) and the accumulation of carbonic gas (CO2) in the arterial blood can cause brain vasodilation and the fluids’ exudation mechanism that raises the fluids’ pressures and results in headaches and migraines. To avoid this, an easy measure is performing any respiratory exercise, an hyperventilation at least once a day. It lowers the cerebrospinal and intraocular fluids’ pressures, it prevents and improves the migraines, many aches, signs, symptoms and sicknesses.

The respiratory exercises can be fulfilled by:

- Aerobic physical exercise (gymnastics) which increases the respiratory rate. “Regular aerobic exercise is associated with a reduction in elevated intraocular pressure and may represent an effective nonpharmacologic intervention for patients suspected of having glaucoma.” (Passo M S, and others).

“The aerobic exercise group (n = 15) participated in a 6-week, twice-weekly, indoor exercise program (45 minutes of gymnastics with music and 15 minutes of progressive muscle relaxation). The program led to a significant reduction of self-rated migraine pain intensity... there was an improvement in depression-related symptoms.” (Dittrich S M, and others).

- Bicycling.
- Cold shower bath.
- Dancing with pleasure and breathing happily.
- Deep suspiration. It is easy, it does not bother the people around you, and it is effective in preventing migraines.
- Drinking eucalyptus or mint tea leaves.
- Drinking only one small dose of a strong liquor.
- Dropping in the nostrils some “strong” odor. This is also used by the Ayurveda medicine.
- Eating onions, garlic, ginger, or Spanish pepper (Capsaicine).
- Exercising at any place, at any time, with any style, until you pants.
- Indian dance: perform one yourself. Squeeze your aches and fears under your feet. Yell to your devils to get out of you.
- Jogging.
Laughing. Roars of laughter. Guffaw. It prevents migraines, medicate soul aches, and can improve body’s health.
Lavender essential oil inhalation.
Massage.
Oxygen therapy.
Peppermint smell or incense.
Playing with joy.
Playing golf at an open field, talking with your friends and enjoying the fresh air.
Pranayama – Respiratory exercises from Yoga.
Running.
Sexual activity, happily done with pleasure.
“Shitali”, from Ayurveda medicine: “Curl your tongue into a tube. Inhale slowly through the curled tongue, swallow, and then exhale normally through the nose, keeping the mouth closed.” (Ayurveda).
Singing. At least, in the bathroom.
Singing under one’s breath.
Snuffing rappee (not cocaine).
Stretching oneself and yawning.
Swimming.
Taking a deep breath and saying “OHMMMMMM…. ” as the yoga teaches.
Talking a lot, peacefully.
Walking and breathing deeply the fresh air.
Whistling a tune.
Working hard. “This study concludes that hard working is associated with physical fitness and physical fitness is associated with reduced resting intraocular pressure.” (Qureshi I A, and others).
Working with happiness.
Yawning: “Healing yawn”, from multi-millenarian Ayurveda medicine: “When you have a migraine, gently squeeze your earlobes, pulling the ear down, and do the act of yawning.” (Ayurveda).
Many migraineurs instinctively yawn before migraines, and sometimes they prevent their aches.
Yelling at any competition.

You must stay quiet and silent only at the right moments, not during all the day. Do not accumulate carbonic gas that intoxicates you and can cause migraines. Breath plenty oxygen from the pure air. It is healthy and is (still) free.

XVIII- p - medicaments to lower the Ocular, Cerebrospinal and Inner Ears Fluids Hypertension Syndromes: We prescribe:

- **Eye drops:** We prescribe eye drops to lower the intraocular pressure, when:
  1 - The other measures did not eliminate the Migraine of the intraocular pressure rise.
  2 - There is an Optic Nerve’s cup bigger (cup diameter 0.6 or bigger) or deeper (deepness 3 or 4 dioptre) than healthy, or with the Lamina cribosa's foramens well or perfectly visible (grades 2 or 3), which means suspicion of glaucoma.
  3 – The applanation intraocular pressure is 18 mmHg or bigger, even without any other sign or symptom.

- **Timolol Maleate eye drops,** which is an adrenergic beta-blocker, or other eye drops utilized to medicate glaucoma.
- **Acetazolamide,** which is a carbonic anhydrase inhibitor, 125 mg once a day (half tablet of 250 mg), or each other day, at lunch, which reduces simultaneously the intraocular, the cerebrospinal and the inner ear fluids’ pressures. Together with the Acetazolamide, in order to prevent its collateral effects, we prescribe to eat some potassium rich fruit. Few patients need 250 mg of Acetazolamide each day.
- **Propranolol cloridrate,** which is an adrenergic beta-blocker.
  These medicaments reduce the fluids' pressures and together with the diet, help to cure all the migraines and to prevent the glaucoma.
Any medicament or therapy, besides its collateral effects, can be effective in relieving migraines when administered at the right time to:

- Prevent the fluid’s accumulation.
- Prevent some etiology, as stress.
- Prevent the initial vasospasm (vasoconstriction).
- Prevent the vasodilation or constrict the already dilated artery.
- Reduce the fluid pressures.
- Promote analgesia on the emergency treatment.
- Stop the pathophysiological vicious cycle: Aches causing stress > releasing more adrenaline (epinephrine), cortisol (cortisol), or anti-diuretic hormone, and causing more neural reflexes > causing more vasoconstriction and water retention > causing more rebound vasodilation and fluid’s exudation > causing more fluid pressure rising > causing more aches.

We prescribe medicaments only 1 month after the patient has reduced or eliminated the excessive drinks and caffeine, and still has the Fluids Hypertension Syndromes. No medicine works well, whether the patient keeps his pleasant and worsening drinks.

XVIII- q - We never prescribe to the Migraine patients other medicaments, therapies or surgeries.

Other physicians prescribe many therapies, medicaments and surgeries to the migraines patients. We consider as dangerous or inappropriate any therapy that masquerade the real sickness and do not cure the Migraine’s etiologies. We had many patients who came after years of migraine or “allergic” therapies, and when examined they had an advanced glaucoma.

Each one of the following treatments was used for alleviating the migraines and variants by some physicians, with variable results. These migraine’s symptomatic or abortive therapies are similar to medicating an aching tooth without curing the tooth caries. **Which of these therapies do you use for your aching tooth?**

We never prescribe these therapies to the patients with migraines and variants:

1- Abortive infiltrations for first neuron afferent blockade.
2- Acetaminophen (Paracetamol).
3- Acetylsalicylic acid. Aspirin.
4- Acupressure. Do-in.
5- Acupuncture (verum, sham, placebo, minimal, laser, semi-permanent needle).
8- Amino Acids: L-Tryptophan. Taurine.
10- Anesthesia of the nerves (nerve blocks) with local anesthetics, such as Lidocaine, Prilocaine and Bupivacaine:
11- Auriculotemporal nerve.
12- Cervical spinal roots.
13- Facial nerve.
14- Greater Occipital nerve.
15- Lesser (Minor) Occipital nerve.
16- Sphenopalatine ganglion.
17- Stellate ganglion.
18- Supratrochlear and Supra-orbital nerves.
19- Trigeminal nerve or its branches.
20- Angiotensin-receptor blocker: Candesartan.
21- Angiotensin conversion enzyme inhibitor: Lisinopril.
22- “Anointing the head with ashes from the burnt skull of a catfish and fried in oil.” (Ebers Papyrus, Thebes, Egypt (about 1550 BC).
26- Aromatherapy.
27- Auriculotemporal nerve stimulation.
28- Autosuggestion. Mental visualization.
29- Ayurveda medicine, other than those above mentioned.
30- Barbiturates. Butalbital.
31- Bed rest.
34- Bleeding to drain the excess humors and application of herbs to the head to draw out the humors. (Hippocrates).
35- Bloodletting acupuncture at Taiyang Zimai (Extra) or Taiyang (EX-HN 5) and Ashi points.
36- Blows on the head.
37- Body relaxation.
38- Botulinum toxin type A (Botox) injection.
39- Butterbur (Petasites hybridus) (Petasin, Isopetasin, and Neopetasin).
40- Caffeine in any medicament or beverage.
41- Calcitonin gene related peptide-receptor (CGRP) antagonists: Olcegepant, Telcagepant.
44- Capsaicin (red chili pepper). Capsaicin jelly.
45- Carbon dioxide (CO2) no inhaled intranasal.
46- Cervical traction.
47- Chiropractic, massage. Cervical manipulation.
49- Cognitive-Behavioral therapy.
52- Cupping (vacuum cupping glasses).
53- Darkness therapy.
54- Diets other than those above described.
55- Diuretics other than Acetazolamide: Spironolactone.
56- Ear point combined therapy, including blood-letting at the ear back, injection of auto-blood into Fengchi (GB 20), Yanglingquan (GB 34), and pricking at ear points Nie (AT2), Yidan (CO11), Shen-men (TF4). Semi-permanent needle in the ear.
57- Electrical peripheral nerve stimulation.
58- Electroacupuncture.
59- Feverfew (Tanacetum parthenium).
60- Ginkgolide B. Ginkgo biloba.
61- Head and neck massage.
62- Headache diary.
63- Histamine (subcutaneous administration).
64- Homeopathy.
65- Hormone therapy.
66- Hot packs.
67- Hypnosis. Suggestion.
68- Hypothalamic deep brain stimulation.
69- Intranasal lidocaine.
70- Intravenous lidocaine.
71- Kudzu (Pueraria lobata).
72- Laser therapy.
73- Light therapy (Phototherapy). Chromatotherapy.
74- Lithium bicarbonate.
76- Magnetic cranio-sacral therapy.
77- Meditation: Spiritual meditation. Internally or externally focused secular meditation. Mindfulness-based stress reduction.
79- Memantine.
80- Menthol solution.
81- Metamizole.
82- Metoclopramide.
83- Mexiletine.
85- Moxibustion.
86- Muscle relaxation.
87- Music therapy.
88- Neck cooling. Head cooling.
89- Neurostimulation.
90- Nitric oxide synthase specific inhibitor: Monomethyl-L-arginine.
92- Occipital nerve stimulation.
94- Orthomolecular therapy.
95- Oxygen inhalation, pure or hyperbaric.
96- Pepper spray.
97- Phenothiazines.
98- Picotamide.
99- Placebo.
100- Posture correction.
101- Prochlorperazine. (Dopamine antagonist, antipsychotic).
102- Prolactine inhibitor: Bromocriptine.
103- Propoxyphene.
104- Psychotherapy.
105- Qigong.
106- Reflexology. Foot, hand, and head massage.
107- Saline infiltration around the superficial temporal arteries.
108- Self-hypnosis.
109- Self-relaxation training. Stress-coping training.

**Serotonin (5-hydroxytryptamine) (5-HT) agonists, antagonists and reuptake inhibitors:**

111- Receptor 5-HT1 selective agonists (vasoconstrictors): Tryptans (Triptans): Sumatriptan; Naratriptan; Zolmitriptan; Rizatriptan; Almotriptan; Eletriptan. Frovatriptan.


114- Sharp hooked needling.

115- Skeletal muscle relaxants: Cyclobenzaprine.

116- Somatostatin. Octreotide.

117- Sphenopalatine ganglion neurostimulation.

118- Supraorbital-occipital neurostimulation.

Surgeries useless for migraines and variants:

119- “Allergic” Rhinitis and Sinusitis surgeries.

120- Blepharoplasty.

121- Brain surgery.

122- Cerebrospinal fluid diversion (shunt).

123- Cervical and lumbar inter-vertebral decompression.

124- Corrugator superciliarius muscle resection.

125- Deactivation of migraine trigger sites.

126- Decompressive craniectomy.

127- Deep brain stimulation.

128- Endoluminal venous sinus stenting.

129- Floppy Eyelid Syndrome surgeries - four different forms.

130- Glabellar myectomy.

131- Glaucoma surgeries (most of them).

132- Hypothalamic ipsilateral stimulation.

133- Inferior eyelid purse excision.

134- Inner ears' decompression surgery.

135- Intraocular injections.

136- Ischemic Optic Neuropathy Decompression.

137- Lumbar punctures. Spinal tap.

138- Lumbo-peritoneal shunt.

139- Macular photodynamic therapy.

140- Macular translocation.

141- Mandibular surgery.

142- Nasal septum and turbinate surgery.

143- Nerve block.

144- Nerve decompression.

145- Nerve resection.

146- Oophorectomy, bilateral.

147- Optic Nerve sheath fenestration.

148- Percutaneous radiofrequency ganglio-rhizolysis.

149- Photothrombosis for choroidal neovascularization.

150- Radial optic neurotomy.

151- Retinal inner limiting membrane peeling.

152- Retinal photo-coagulation.

153- Spinal cord stimulator.

154- Squint surgery.

155- Subretinal fluid drainage.

156- Supraorbital foraminotomy.

157- Tonsilectomy.

158- Trigeminal Nerve sensory root section, or destruction, or rhizolysis.

159- Uvulopalatopharyngoplasty.
160- Ventriculo-atrial shunts.
161- Ventriculo-peritoneal shunts.
162- Vessel ligation of the carotid and middle meningeal arteries.
164- Tai chi.
165- Temporal arteries compression.
166- Thermo-therapy.
167- Thioctic acid (Lipoic acid).
168- Tinnitus retraining therapy.
169- Tonabersat.
170- Transcranial direct current stimulation.
172- Transcutaneous electrical nerve stimulation.
173- Trigger point injections.
174- Ultrasounds.
175- Vitamins: Riboflavin (Vitamin B-2). Cyanocobalamin (Vitamin B-12). Vitamin E.
176- Watchful waiting.
177- Weight reduction.
178- Wet cupping (cupping with skin scarification and some blood draining).
179- White willow (Salix alba).
180- Yoga.

Did someone suggest a hammer blow on the big toe? Not yet? Why not?
"Great institutional variability exists among United States emergency departments in the parenteral treatment of patients with isolated benign headache." (Vinson D R, and others).

Which do you prefer for yourself? To withdraw the caffeine, chocolate, wine, beer and excessive water from your life and cure? Or to sustain many migraines, signs, symptoms, sicknesses, and some of these above therapies for years? You may choose now your future health or sufferings!

Why are these wrong therapies still used? Nearly all of these therapies for headaches and migraines only improve the patients' aches, and do not cure their etiologies and sicknesses. Some of these medicaments turn the acute aches into chronic ones, or worsen the fluids pressures. These therapies are used now, because three motives:

1- **Medical ignorance:** The physicians do not know which are the migraine's etiologies and pathophysiology, and how to cure them. The medical physicians "headache specialists" even do not know how to prevent their own migraines: “Interestingly, the prevalence of migraine among the headache specialists themselves is much higher than in the general population.” (Evans R W, and Lipton R B).

2- **Forgetfulness:** After more than 30 years of recurrent sufferings, when the patient begins to become blind with glaucoma, or deaf, or invalid with some brain disease caused by the Fluids' Hypertension Syndromes, he does not connect those past aches, doctors and migraine's therapies with the actual sickness. These decades of delay between the aches and their definitive lesions causes the forgetfulness and prevents the doctor to be sued by his patient, although now the patient has an incurable definitive lesion.

3- **People ignorance:** The people does not know anything about the relation between the caffeine they are daily using and the hundreds of sicknesses it causes. Nobody is interested in educate the people about their caffeine poisoning, because this can reduce the caffeine beverages consume, the manufacturers profits and the government taxes.

XVIII- r - We educate all patients, teaching the etiologies which they must avoid. It is not necessary to avoid the triggers: they do nothing after avoiding the etiologies.
XVIII- s -Weighting loss therapy is unnecessary: The common medical treatment for Pseudotumor Cerebri includes “weighting loss” therapy, which includes stopping all “sodas” beverages and chocolates. As the “sodas” and the chocolates are the main source of caffeine and excessive water to most patients, they cure.

It is not necessary to lose weight to cure the migraines. It is only necessary to lose the excessive water retained in the body. Stopping the caffeine which retains water, and stopping the excessive water drank, usually the patient loses 1 to 2 kilograms (2 to 4 pounds) of water and of weight, besides improving the Cerebrospinal Fluid Hypertension and the Pseudotumor Cerebri. The patient bigger than 90 kilograms can lose up to 4 kilograms of retained water in one month.

XVIII- t -Headache associated with sexual activity (Intercourse headache): It is caused by the Valsalva maneuver. We prescribe immediately standing up and breathing with amplitude, easily releasing the retained air, which stops the Valsalva maneuver, decreases the fluids' pressures and stops the headache in one minute. The prevention of its relapsing is the same therapy to the Fluids' Hypertension Syndromes.

XVIII- u -Most of our migraine patients have cured. We had evidence from our patients who followed this prescription during all these years that this Migraine’s treatment is efficacious, so to the acute, so to the chronic migraines. Most of all of our migraines patients have cured.

Some patients with mild signs or symptoms caused by the ingestion of beer, wine and caffeinated soft drinks prefer to maintain their pleasant drinking habits. Consequently, they continue suffering and their damage progressing. The same occurs with the patients oriented by other physicians to keep the excessive ingestion of water and medicaments daily.

Some patients became angry, because “we forbidden them to drink the delicious beverages chocolate, coffee, wine and beer.” These patients prefer to change their physician than to change their drinks.

- Effect of dietary measures on the sicknesses: We had a 61-year-old Black (around 80% Black, 10% white and 10% Indian) patient, 1.78 meters tall, weighting 78 kilograms. He was complaining about chronic eyelids itching and consequent recurrent sties. He also felt chronic rhinitis and dry cough. He used to drink 100 milliliter of coffee, tea, and 4,000 milliliter (more than a gallon) of water daily. On the ophthalmologic examination we found Optic Nerve’s disks with cups of 0.8/4/1/0 and 0.6/3/1/0 (cup diameter/ cup deepness/ lamina cribosa’s pores visibility/ borders edema), which configures an advanced glaucoma and a suspicion of glaucoma in his right and left eyes. His intraocular pressures were 25 and 22 mmHg right and left eyes. His eyes' anterior chambers were physiologic, deep. We medicated his sty, prescribed him eye drops to lower his intraocular pressures and to shorten all drinks.

After one year, he came back with another sty. He had shortened the coffee to 50 milliliter, few tea and water daily, but never used the eye drops. He explained that he was all better, his rhinitis and dry cough had gone, and his sties were rare, only once a year. On the examination, we found the same Optic Nerve’s cups, the intraocular pressures of 22 and 20 mmHg right and left eyes, lower than the former. His symptoms improvement was the result only from the drinks shortening, without any medication. We explained him that he still was needing the anti-glaucoma eye drops.

XVIII- v -We control the treatment’s efficacy, when the patient returns, by the same exams described above (Method):

1 – Detailed anamnesis: The well-controlled patient must not presented any symptom, and show better the old signs. The migraines cure.

2 – Optic Nerve’s Disk direct ophthalmoscopy: The well-controlled patient must have stabilized his Optic Nerve’s disk cup damage, if he had one. The Optic Nerve's border edema reduces few and slowly for years, and sometimes it does not reduce at all.

3 – Ocular applanation tonometry at the office: The well-controlled patient must present the intraocular pressures of 16 mmHg or less in each eye.
4 – The main control is the patient's feelings of any ache, migraine, or other sign or symptom. The well controlled patient must not feel anything bad.

XVIII- w -Migraines' therapeutic paradox: The patient with intraocular pressure bigger than 18 mmHg and almost no Migraine (Graph V-1), when first time medicated with eye drops to lower his intraocular pressure, usually feels Migraines for few days. This patient incriminates the medicament to worsen him, and sometimes this is the cause of the treatment rejection on its beginning. This Migraine worsening is the ache of the Optic Nerve’s Lamina cribosa reducing its former squeeze, caused by the Cerebrospinal fluid pressure on the other side. The damage is partially recovering, but the aches are worsening for one week. This Migraine cease in few days with the continuity of the treatment. The eyes with intraocular pressures that do not reduce to 16 mmHg or less can ache fifteen days with this migraine.

The advise of these aches is included in the manufacturer's instructions for the use of Timolol Maleate eye drops, which is a very efficacious medicament to lower the intraocular pressure.

The same headaches can happen when the patient, user of caffeine, stops its use. It is known as a “caffeine withdrawal symptom”.

The same headaches can happen when the patient, drinker of excessive water, shorten his water drinks: “Subjects experienced water-deprivation headache, aching in the majority and accentuated by head movement, bending down, or walking.” (Blau J N, and others). This headaches paradox justifies the excessive water drinks as a therapy for migraines: “The present study suggest a reduction in the total number of hours and intensity of headache episodes after increased water intake.” (Spigt M G, and others). This paradox explains the folkloric recommendation of “to drink much water or alcoholic drinks on the next day, in order to medicate the hangover from the yesterday drinks”.

There are physicians who prescribe psychotropic and other worsening medicaments to the Fluids Hypertension Syndromes in order to alleviate the patient's Migraines. Due to the reduction of Migraines concomitant with worsening the fluids pressures (Graph V-1), they obtain these symptoms alleviation. However, this rise of the fluids pressures can cause protracted damage as Glaucoma, Pseudotumor Cerebri and Inner Ears sicknesses.

This same paradox explains the efficacy of migraine’s medicaments which contain analgesics associated with caffeine. As caffeine increases in few minutes the Arterial pressure, it reduces the symptoms but causes the migraine rebounds hours later, increasing the fluids’ pressures and worsening an eventual definitive damage. We conclude that the Caffeine is poisonous and treacherous. We had patients that self-medicated their Migraines with caffeinated analgesic, and as the aches relief lasts lesser hours each time, they need to take until 10 tablets everyday. Other medical doctors found even greater daily tablets consumption: “Numbers of tablets taken ranged from 1 to 30 each day (mean of 5.2). 10.5% subjects took more than 10 tablets per day.” (Bigal M E, and others).

Due to the endurance of the Optic Nerve’s Lamina Cribosa, the definitive sickness can last years to occur slowly. Provided the patient survives many years, other physician will diagnose and medicate him, without relating the recent diagnosed sickness (frequently glaucoma) with the Migraines and wrong medicaments from many years ago.

XVIII- x -Hospitalization improves the migraines: There are medical doctors that hospitalize their migraines patients. The hospitalized patient cures his migraine only with this, with whatever treatment or without any treatment at all, because he can not drink coffee, beer, wine, caffeinated soft drink or the excessive water he is accustomed to drink at home. Provided that in the hospital the patient is not medically overloaded with more than 2,000 milliliter of water (more than half gallon) of intravenous “serum” daily for his “hydration”, the migraines cure after one week of the caffeine abstinence headaches.

XVIII- y -Surgeries which improve the sicknesses of the Fluids Hypertension Syndromes:
We noticed on our patients who were submitted to surgeries or other therapies at other medical services, for Glaucoma, Pseudotumor Cerebri, Allergic Rhinitis, Allergic Sinusitis, Eyelid purses, Macular Hole, Macular Edema, and many orthopedic and neurological aches, that the following good or bad surgical results were determined by the stopping or continuity of the patients drinks after the surgery.

On the days immediately before and after any surgery, and in the hospital, the patient must stop all the drinks of beer, wine, soft drinks, coffee and excessive water. At home, after the surgery, those patients who kept away from these drinks behave better, and those patients who resumed their drinking habits behave worse. **The surgery result is consequent, as to the surgeon’s ability, as to the patient’s everyday drinks after the surgery.**

We only recommend surgery to some sickness of the Fluids Hypertension Syndromes after the evidence that there is an anatomical disturb, the diet and the medicament are not enough to control the sickness. This is rare. We recommend:

- Anti-glaucomatous surgery for the high-tension glaucoma.
- Peripheral laser iridotomy for the closed-angle glaucoma.
- Lens extraction to improve the angle configuration in the cataract.
- Vitrectomy, and few other ophthalmological surgeries for ocular degeneration.
- Bariatric surgery for the extreme obesity together with the Cerebrospinal Fluid Hypertension.
- “Percutaneous transcatheter closure of patent interatrial communications (cardiac patent foramen ovale) results in significant amelioration of Migraine headache in 87% of patients (complete resolution in 24% and significant improvement in symptoms in 63%).” (Dubiel M, and others).
- Surgical closure of the pulmonary arterio-venous malformation, when possible.

**- Migraines and Glaucoma medicated, operated, before and after caffeine and liquids restriction:**

We received a patient with 57-year-old, almost entirely Black, with only one great-grandmother Indian. She had six children. She was 1.49 meters (4 feet and 11 inches) tall, weighing 65 kilograms (143 pounds). She was medicating and had been submitted to Laser Iridotomy for Closed-Angle Glaucoma. Her visual fields 1st exam resulted with “Peripheral defects at all visual quadrants in both eyes”. After one year, similar visual fields exam showed “Concentric defects all over the visual fields, with threatening of the central visual area.” She was complaining of daily strong migraines on the wide frontal, ethmoid and occipital areas; eyes aches, tearfulness, redness and itching; chronic sneezing and dry cough. She was drinker of coffee 500 milliliters (1 pint), caffeinated soft drinks 300 milliliters (10 fluid ounces) and water 1,500 milliliters (3 pints) daily. Nobody told her that these drinks worsen the Glaucoma and the Migraines. On the ophthalmological exam, she presented intraocular pressures of 22 mmHg in both eyes (a little high) and shallow anterior chambers. We taught her to stop all coffee and soft drinks, to shorten the daily water to the thirst needs, to keep the eye drops medicaments and prescribed her Acetazolamide 125 mg once daily.

After two months she came all better, without any of those symptoms, seeing better, but still presenting intraocular pressures of 21 and 18 mmHg right and left eyes, with the same shallow anterior chambers. This signifies that she saved her both eye’s vision and cured her migraines, which is very good, but her eye drops treatment must endure for life.

**XVIII- z -Therapeutic Difficulties:** We found difficulties about convincing some patients that their pleasant drinks are worsening their health. Many patients believe that the pseudo-scientific expressions that they repeatedly hear are true, as:

- “Green tea is good to your health” (or skin, or hair, or other);
- “Drinking a cup of wine daily is good to your heart”;
- “Drinking more than 2 liters (half gallon) of water daily is good to your kidneys” (or more than 20 other health motives);
- “Coffee is good to increase children learning.”(or other more than 10 health motives);
- “Drink coffee (or any caffeinated drink) and feel good”(or any good feeling).
- “Dark chocolate is very good to your health”.

All manufacturers only pay advertisements to say good things about their merchandises, even when they are not entirely true and hide something bad. People repeatedly hearing the advertisements do be-
lieve in them. Advertisement indeed works.

The industries of cola drinks, wine, beer, coffee, teas, chocolate and other industries also pay for medical doctors to write scientific papers spreading dubious health benefits concerning their merchan-
dises. Therefore, even medical doctors and nutritionists believe them, and repeat them as parrots to
their patients.

No one pays for spreading that to the health benefit it is necessary to shorten or to stop the use of any
drink, because any drinks reduction can affect the profits of that industry.

XVIII- aa -When the headache continues: With the above treatment, whether the headaches or vari-
ants persist after one week of withdrawal, it is necessary to search for other etiologies with medical ex-
ams. In this case, these are not “primary” migraines: they are headaches secondary to some sickness
which needs the respective diagnose and therapy.

XVIII- bb -Consequences of our treatment:
1- Useless of surgeries and therapies: The improvement of all patient’s signs and symptoms with the
therapy turns useless most surgeries of these sicknesses, as Optic Nerve’s sheath fenestration (decom-
pression), Macular photodynamic therapy, Retinal Photocoagulation, Vitrectomy, most glaucoma surgi-
eries, Trigeminal Nerve destruction, “allergic” Rhinitis and Sinusitis surgeries, Orthopedic cervical and
lumbar inter-vertebral decompression, and others. Consequently, the patient avoids sufferings, expenses
and collateral effects.

“In early postoperative period after optic nerve sheath decompression, a fluid collection adjacent to
the decompression site occurs in most eyes; this finding disappears in late period. Early postoperative
magnetic resonance findings support the idea that optic nerve sheath decompression functions through
the cerebrospinal fluid filtration.” (Yazici Z, and others).

2- The obese patient gets slimmer. We observed a reduction of one up to 4 kilograms (9 pounds)
of the body weight on the initial weeks of the excessive liquids drink restriction. It is a physiologic body
weight reduction without any medicine. In the migraine patient, all the body fluids are with retained
water. As these fluids are in expansible spaces, the water retention swells them without aches. With the
liquids drinks reduced to the physiologic, and without caffeine or beer, the excretory system physiolog-
ically expels the excessive body’s water and the patient gets slimmer without any medicament. This is
healthy and the patient likes it.

3- The excessively lean patient gets stronger: We observed that the excessive lean patient consequent
to the daily caffeine ingestion, after the reduction of caffeine he gains one or two kilograms (2.2 or 4.4
pounds) of body mass and becomes healthier.

- Curing Migraines and stopping the glaucoma evolution: We had a 43-year-old social worker; al-
most entirely Black, no child, 1.65 meters (5 feet and 5 inches) tall, 53 Kilograms (117 pounds) of
weight. She has myopia and complained about occasional bi-temporal headaches, few eyes disturbs
and little eyelids secretions at morning. She also presented two weeks of chronic dry cough and sneez-
ing. She was a drinker of water and juices around 3,000 milliliter (nearly one gallon) daily, and event-
tually caffeinated soft drinks. On the ophthalmologic examination, we found intraocular pressures of
25 and 30 mmHg right and left eyes, which are high. Her anterior chambers were deep, physiologic.
The direct ophthalmoscopy show Optic Nerve’s disks of 0.9/1/0/0 and 0.8/1/0/0 (cup diameter/ cup
depth/ lamina cribosa’s pores visibility/ borders edema), which is an uncommon aspect of the begin-
ning glaucomatous damage: the cup is wide and with the same small deepness at all the disk. This as-
pect is not considered as glaucoma yet.

We prescribed her new eyeglasses, to stop all caffeinated soft drinks, and to shorten the water and
juices drinks only to her thirst needs. We also prescribed her the use of eye drops to lower her intraoc-
ular pressures (Timolol Maleate 0.5%), twice a day.
When she came back to examination again after three months, she was no more presenting any headaches or the other symptoms, was feeling better and her intraocular pressures show 14 and 15 mmHg right and left eyes, which are physiologic. Her Optic Nerve’s disks show 0.8/1/0/0 and 0.7/1/0/0, which is an unexpected reduction from the former exam. This is a plain prevention of Glaucoma together with curing her migraines. It is good, isn’t it?

4- The glaucomatous color vision deficiency, mainly for blue color, improves after the reduction of the high intraocular pressure. On the first day of return, our patients say that “they are seeing better”.

“The intraocular pressure reduction of 20% after trabeculectomy was associated with the improvement of the colors vision”. (Translated from Portuguese). (Magacho L, and others).

“In 56% of right eyes and 21% of left eyes of the treated glaucoma subgroup, the pattern electroretinogram amplitude and/or phase improved...Pattern electroretinogram improvement with intraocular pressure lowering occurred in both high- and low-tension glaucoma eyes. Eyes with severely impaired Visual fields showed little improvement in pattern electroretinogram. Retinal ganglion cell function can be at least partially restored after IOP reduction in glaucomatous eyes with early Visual field impairment” (Ventura L M, and Porciatti V).

5- The visual field mean deviation index, the vision quality perception and the contrast sensitivity improve: “On 54 glaucoma patients,... after 4-week glaucoma treatment there were statistically significant changes in ... standard automated perimetry visual field mean deviation index, vision quality perception, and contrast sensitivity. “ (Prata T S, and others).

- Curing Migraines, many sicknesses and Preventing Glaucoma, all caused by caffeine, excessive water and beer:

We had a white woman patient, 61-year-old, confectioner, 1.68 meters (5 feet and 6 inches) tall, and 98 Kilograms (215 pounds) of weight. She is suffering for many years of arterial hypertension, diabetes and asthma. From 3 months until now, she is complaining of wide frontal headaches at awakening, both eyes with itching, inferior eyelids edemas and tearfulness. Occasionally, she presents nausea and retching at morning. She drinks coffee 400 milliliter (13 fluid ounces), green tea 250 milliliter (8 fluid ounces), caffeinated soft drink 600 milliliter (20 fluid ounces) and around 2,000 milliliter (half gallon) of water daily prescribed by her physician in order to “wash the body’s toxins”. Sometimes she drinks few beer cans. She also drank caffeinated over-the-counter analgesics for her headaches. On the ophthalmologic examination we found the eyelids edemas, intraocular pressures of 21 an 19 mmHg which are a little high, shallow anterior chambers and Optic Nerve’s cups of 0.4/2/0/0 and 0.5/3/0/0 (cup-disk diameter/ cup depth/ lamina cribosa’s pores visibility/ borders edema) in right and left eyes, which are physiologic and means that the glaucomatous damage has not occurred yet. This overweighted patient has all those suffering because she eats and drinks too much, for years along.

We prescribed her the use of eye drops to lower her intraocular pressures, and reaffirmed her to restrain the salt (for the arterial hypertension), the sugar and all calories (for the overweight and diabetes), the coffee and all the other caffeinated drinks and medicaments (for the headaches caused by the Ocular Hypertension Syndrome and possibly the inner ears’ hypertension syndrome also). Whether she fulfills this, she can become better from all these sicknesses. Luckily, her eyes, brain and inner ears had enough endurance to support all this, without any definitive lesion until now.

The alternative, without this dietary restraint, is the worsening of her sufferings until some definitive damage occurs.

XVIII- cc - “Idiopathic”, “Age-related”, “Primary”, “Allergic” and other sicknesses denominations:
The medical doctor who publishes a description of one of the hundreds above sicknesses with a denomination of “Idiopathic”, “Age-related”, “Allergic” or “Primary”, is declaring to all the world that he did not talk with his patient; he did not question him and he did not hear from his patient about his everyday drinks. Consequently, this doctor does not know the etiology which is causing this sickness and how to prevent or to cure it. This doctor does not do the Anamnesis, he is in fault with this patient, and he is shamelessly declaring publicly his medical incompetence. Which medicine is that?

**XIX) – Diabetes concomitant with the Fluids Hypertension Syndromes:**

The diabetes presents three distinct situations with the Fluids Hypertension Syndromes:

a) The Ocular Hypertension protects from the development of the diabetic retinopathy.

b) The Diabetes worsens the Open Angle Glaucoma.

c) The Cerebrospinal Fluid Hypertension worsens the diabetic retinopathy.

**XIX - a) The Ocular Hypertension, with or without migraines or myopia, protects from the development of the Diabetic retinopathy:**

We observed two diabetic patients with Migraines consequent to intraocular pressures between 18 and 22 mmHg, who inadvertently used eye drops to lower their intraocular pressures, and they presented diabetic retinal exudation with fast evolution. We had many other diabetics patients with intraocular pressure bigger than 17 mmHg, with or without migraines, until glaucomatous, who presented slow or none progression of their diabetic retinopathy when left with their high intraocular pressures untouched. Therefore, we confirm the protective effect of the rise of the intraocular pressure, between 17 up to 22 mmHg, against the development of the diabetic retinopathy (Becker, B). The retina presents few or no damage while the patient can have serious diabetic damage elsewhere in his body, and the ophthalmic exam of “fundus of the eye” does not show it.

“The myopia seems to exert a protective effect to the diabetic retinopathy by few understood mechanisms, emphasizing the bigger pressure attenuation of the blood flow in the arteriolar tree of the myopic eyes.” (Translated from Portuguese). (Veloso, J C B and others).

**XIX - b) The diabetes worsens the Open Angle Glaucoma:**

“The prevalence of Open Angle Glaucoma was 40% higher in participants (1157 Latinos with 40 years or older) with type 2 Diabetes Mellitus (T2DM) than in those without T2DM. Trend analysis revealed that a longer duration of T2DM was associated with a higher prevalence of Open Angle Glaucoma”. (Chopra V and others).

“For all studies, there is a statistically significant 50% increase in the odds of developing primary open-angle glaucoma among diabetic patients.” (Bonovas S, and others).

**XIX – c) The Cerebrospinal Fluid Hypertension worsens the diabetic retinopathy:**

All the ocular retinal diabetic damages worsen and occur with precocity when they are concomitant with the Cerebrospinal Fluid Hypertension Syndrome. The rise of the Cerebrospinal fluid pressure squeezes the Central Retinal Vein, causing increased venous pressure in the veins and capillaries in the retina. Simultaneously, the diabetes turns all veins and capillaries weaker and prone to leak. The increased central retinal venous pressure concomitant with weaker capillaries enhances all kinds of diabetic retinal damage, and with quicker evolution times.

**We conclude that to prevent the enhancement of the diabetic retinopathy, the diabetic patient must:**

- Avoid drinking caffeine, beer, wine and excessive water, in order to prevent as peaks in the Cerebrospinal fluid pressure as the weakening of the arterial capillaries.
- Avoid eye drops that lower the intraocular pressure, unless he presents an advanced glaucoma.
XX) - Main Conclusions

Contents:
A – About Migraines, Fluids Hypertension Syndromes and their pathophysiologies.
B – About Etiologies, Diagnose, Signs, Symptoms, Sicknesses and Evolution.
C – About the Caffeine.
D – About Prevention, Treatment and Cure.
E – About Economics.

A – About Migraines, Fluids Hypertension Syndromes and their pathophysiologies:

XX – 1) We conclude that the three Fluids Hypertension Syndromes are the excess of fluids ingress over exit, in 5 body's inelastic closed spaces and fluids filled, raising its inner fluids pressures and causing around 200 Migraines, sicknesses, variants, other signs and symptoms. These 5 fluids filled inelastic closed spaces are the two eyes, one intra-cranial and two inner ears.

XX - 2) We conclude that the pathophysiology common to the three Fluids Hypertension Syndromes is:
a - Many etiologies cause the excessive fluids exudation from the arterial capillaries.
b - When the drainage in that place is sufficient for that excessive volume, the extra-cellular fluid is drained and nothing occurs.
c - When the drainage is insufficient and in a soft expansible tissue, it swells as an edema.
d - When the drainage is insufficient and in a closed space, the extra-cellular fluid pressure raises and the stretched structures ache as migraines and variants.
e - When the stretched structure is a nerve in a hard lamina cribosa or foramen, the passing by nerve fibers suffer the consequent damage.
f - When the fluid pressure surpasses the arterial perfusion pressure at any place, it causes the collapse of the arterial supply and the ischemia causes the neurological damage.

XX – 3) We conclude that the peaks of the intraocular pressure higher than the patient's physiologic value some hours each day and night, repeating thousands times along months or years, causes (mainly cluster and tension) migraines, damages his Optic Nerves' fibers, increases the Optic Nerve’s cup diameter and deepness, causes the visibility of the Lamina Cribosa's pores at the cup’s bottom, and after years it can result in the Glaucoma. Consequently:
a - Migraines with the Lamina Cribosa's pores visualization, even with normal intraocular pressure at the physician’s office, are from the Ocular Hypertension Syndrome, and their continuity can slowly lead these patients to the Normal (Peak) Tension Glaucoma.
b - It is useless the differentiation between the migraine of intraocular pressure rise, and the Normal (Peak) Tension Glaucoma, because both illnesses are interlaced; their etiologies, pathophysiologies and treatments are the same. Both illnesses are the same sickness at two phases, years apart one from the other.

XX – 4) We conclude that the patients feel Migraines as quicker and intermittent are the fluids’ pressures ups and downs that squeeze the Optic and Acoustic nerves, other nerves and Dura mater.
a - The patients with intraocular pressures between 17 to 21 mmHg feel the higher aches intensities.
b - The patients with intraocular pressures higher than 22 mmHg feel few or no aches. This causes the Migraines' therapeutic paradox: The patient, when first time medicated and lowered his fluids' pressures, usually feels Migraines for few days.

XX – 5) We conclude that all the 3 fluids, the Intraocular, the Cerebrospinal and the Inner Ears, have daily ups and downs of their pressures. In around 30% of our patients, the rises occurred during the sleeping time, worsening their Migraines at awakening.

XX – 6) We conclude that few patients present only 1 Fluid Hypertension Syndrome, and most patients
present 2 or the 3 syndromes mixed up. The Inner Ear’s one almost ever occurs together with the Cerebrospinal Fluid Hypertension Syndrome.

**XX – 7)** We conclude that there is a timing difference between the intraocular Aqueous Humor and the Cerebrospinal Fluid pressures ups and downs. The patient can suffer both fluids hypertensions in the same day, but at different hours. This enables in the same Optic Nerve’s disk, the simultaneous occurrences of glaucomatous damage from the Ocular Hypertension Syndrome and borders edema from the Cerebrospinal Fluid Hypertension Syndrome.

**XX – 8)** We conclude that the denomination of “primary” to migraines and headaches means that these are the primary symptoms, but indeed all migraines and headaches are secondary to some etiologies or risk factors causing some fluid hypertension. There are no migraines without etiologies.

**XX – 9)** We conclude that the high pressures in the Cerebrospinal, Inner Ears or Intraocular fluids can cause definitive ischemic neural damage in the Brain, Eyes, Inner ears, Optic and Vestibulo-cochlear nerves, as Glaucoma, Ménière disease, Sensorineural Hearing Loss, Benign Intracranial Hypertension and other neurological sicknesses, with few migraines after the lesion.

**XX – 10)** We conclude that the same etiologies cause in some patients the rise of the Cerebrospinal Fluid pressure and consequent Benign Intracranial Hypertension, and in other patients cause the rise of the intraocular pressure and consequent Glaucoma. Which pressure will raise more and which pathology will occur, it depends from the patient’s inherited or acquired susceptibility.

**XX – 11)** We conclude that the value of the occasional or steady elevated Intraocular pressure that damages the Optic Nerve and causes glaucoma is different in each individual, and it depends from many factors, as the arterial pressure and the endurance of the Optic Nerve’s Lamina Cribosa. We suppose that the endurance of the Optic Nerve’s Lamina Cribosa is higher when its diameter is smaller.

**XX – 12)** We conclude that there are 10 ways by which the Cerebrospinal Fluid Hypertension Syndrome, the toxicities of caffeine, beer, wine, excessive endogenous adrenaline (Epinephrine) and cortisol, and the diabetes can cause edema, ischemia, exudation and hemorrhages in and under the retina. All this result in retinal neovascularization, fibrosis and retinal degeneration, with many denominations as Age-related macular degeneration, Geographic atrophy and others, and they can result in blindness.

**B – About Etiologies, Diagnose, Signs, Symptoms, Sicknesses and Evolution:**

**XX – 13)** We conclude that there are at least six types of neural signs, symptoms and variants from the Fluids Hypertension Syndromes:

- Primary ache.
- Allodynia of the affected nerve.
- Allodynia of other nerve.
- Neural reflexes.
- Muscle tenderness.
- Neural definitive lesion.

**XX - 14)** We saw, evaluated and followed up the fluid hypertension damage in the Optic Nerve’s disk, as cup's size, cup's deepness, lamina cribosa’s pores, and borders edemas, by direct ophthalmoscopy and by the migraines and variants they cause.

**XX – 15)** We studied and made statistics about 32 different migraines, migraines variants, signs and symptoms felt by our patients, but there are many more. The patients feel some of these migraines, signs and symptoms simultaneously or alternatively. Most signs and symptoms are interchangeable between them and are common to the three Fluids Hypertension Syndromes. Few migraines, variants,
signs and symptoms are exclusive of only one Fluid Hypertension Syndrome.

**XX – 16** We studied and made statistics about 19 Etiologies of the three Fluids Hypertension Syndromes, but there are more than 40. Most etiologies are common to all three, to the Normal (Peak) Tension Glaucoma and to the Benign Intracranial Hypertension. Few etiologies are exclusive to only one Fluid Hypertension Syndrome. The four most frequent and easily removable etiologies from our patients were:

a- Caffeine and theobromine.
b- Excessive daily liquids drinks, mainly water.
c- Beer drinks.
d- Wine drinks.

**XX – 17** We conclude that the absolute majority of the patients with visibility of Lamina Cribosa’s pores (83.8%), and Glaucoma (76.4%), have their high intraocular pressures damage at other hours far from the medical office. On the examination, their intraocular pressures are low or “normal”, and the medical doctors denominate them as “Low-tension” or “Normal-tension” Glaucoma. These patients indeed have a Peak-Tension Glaucoma.

**XX – 18** We conclude about the Etiologies or Risk Factors of the Fluids Hypertension Syndromes:
- Each etiology can cause different pathologies.
- Different etiologies can cause the same pathology.
- Most etiologies are common to all three Fluids Hypertension Syndromes.
- Few etiologies are exclusive to only one Fluid Hypertension Syndrome.
- The patient can present one or more etiologies simultaneously.
- Seldom one etiology alone causes any fluid's hypertension.
- Two or more etiologies simultaneously have their pathogenic effect amplified.
- Each patient can have inherited ethnic, familial, or acquired, susceptibilities to the pathogenic effects of his Fluids Hypertension Syndromes.
- We conclude that the migraine only occurs when there is a big disturbance in the fluids pressure, which is caused or by a strong etiology, or by two or more etiologies acting together and raising to a power their effects.

**XX – 19** We conclude that the three Fluids Hypertension Syndromes, their sicknesses, signs and symptoms, can affect all people’s phenotypes, gender, races and ages. The most resistant group seems to be the adults white men, before they become old.

**XX – 20** We conclude that the boundary from the normal to the excessive drinks depends from the drink composition, its daily volume and from the individual susceptibility, which is much variable. As smaller is the body weight, so smaller is the boundary from normal to excessive drinks. These boundaries shorten with aging. The inheritance of a stronger or resistant body causes higher sensibility to the Fluids Hypertension Syndromes and to the caffeine, wine and beer intoxication.

**XX – 21** We conclude that the excessive water drunk during the day is retained below the waistline and after lying down it causes the 3 fluids hypertension in the head. The water and beer drank just before lying down cause more Glaucoma than the same drinks at another hour.

**XX – 22** We conclude that as men as women increase their glaucomatous damage as increase their average ages, and both gender with the same average ages. Aging is a strong etiology to glaucoma. Aging also causes the progressive reduction of the body's endurance against any toxin: the same recreational and harmless toxin when young, becomes pathogenic with aging.

**XX – 23** We conclude that there can be crossed inheritance of the patient's susceptibility from their parents: from Glaucoma and migraines of the Ocular Hypertension Syndrome, to the Migraines of the
Cerebrospinal Fluid Hypertension Syndrome, and vice-versa. We found inherited susceptibilities alter-
nation between the successive generations in the same family.

**XX - 24** We conclude that the Optic Nerve’s disk borders edemas with other symptoms or with 0.5
dioptre of high or bigger, and the white sheaths of the disk vessels, are pathological and configure the
Cerebrospinal Fluid Hypertension Syndrome, although they can endure many years and can cure with-
out any definitive damage.

**XX – 25** We conclude that there are patients with Optic Nerve’s damage without aches, and patients
with aches without any visible damage. As the physician cannot asseverate or deny any patient’s ache,
it is easy for the malingerer to deceive the physician.

**XX – 26** We conclude that it is typical from the three Fluids' Hypertension Syndromes:
1. They cause many migraines, headaches and variants.
2. Their aches have few or no inflammation.
3. There is no fever.
4. There is no suppuration.
5. Their edemas are cold.
6. Their sicknesses are not contagious.
7. Their palsies are self-limited.
8. Their duration and relapses are for months or years.
9. There can be some familial or ethnic inherited susceptibility.
10. Their main diagnose is clinical.
11. Their main therapy is shortening the daily drinks.
12. Most sicknesses, signs and symptoms can cure without definitive damage or degeneration.
13. Some definitive degeneration and damage are subtle and progressive, and others are sudden.
14. The sudden definitive damage usually occurs when sleeping. The patient awakens with it.

**XX – 27** We conclude that the menstrual migraine has high correlation with the Cerebrospinal Fluid
Hypertension Syndrome and Benign Intracranial Hypertension, and low correlation with the Ocular
Hypertension Syndrome or Glaucoma.

**XX – 28** We conclude that the Hangover is the whole of Migraines of the three Fluids Hypertension
 Syndromes, which the drinker feels only after finished the anesthetizing effects of alcohol and sleep.

**XX – 29** We conclude about the "allergic" Rhinitis:
a - The recurrent Rhinitis with coryza (rhinorrhea) has more relation with the Ocular hypertension.
b - The Obstructive Rhinitis (Nasal congestion or stuffiness) has more relation with the Cerebrospinal
 Fluid Hypertension.

**XX - 30** We conclude that some visceral disturbances can be etiologies or risk factors to migraines,
and the migraines can cause other visceral disturbances, as sneezing, hoarseness, cough, nausea, retch-
ing and vomit.

**XX – 31** We conclude that most migraines, signs and symptoms affected men on average younger
ages than women, but the difference is little (men at 37,5 and women at 39,1 year-old). The women felt
more migraines and with more intensities than the men did.

**XX – 32** We conclude that as increase the patients' glaucomatous damage (glaucomatous optic neu-
ropathy), from suspect to incipient and to advanced:
a - The quantity of patients with glaucoma in each category decreases.
b - The percentage of patients with Normal (Peak)-Tension Glaucoma decreases.
c - The percentage of patients with High-tension glaucoma increases.
d - The Normal (Peak)-Tension Glaucoma was more frequent than the High-tension glaucoma on the Suspect (Cup/Disk=0.6), Incipient (Cup/Disk=0.7) and Advanced (Cup/Disk=0.8).
e - The High-tension glaucoma was more frequent than the Normal (Peak)-Tension Glaucoma only on the advanced glaucoma with Cup/Disk ratios 0.9 and 1.

XX – 33) We conclude that the migraines can be symptoms of an actual glaucoma, or presage of a future glaucoma. So, the glaucoma can progress with the patient:
a - Frequently feeling migraines or many interchangeable signs or symptoms, in average 85% of the glaucoma patients; or
b - Without feeling anything, in average 15% of the glaucoma patients, because the fluid pressure peaks happen when the patients are sleeping, or drunk, or because they do not feel it at all.
c - Consequently, the medical assertion that “the glaucoma progresses without signs or symptoms” is wrong for 85% of the glaucoma patients, and is only true for 15% of them.

XX – 34) We conclude that the acute Angle-closure glaucoma is one of the many sicknesses from the Ocular Hypertension Syndrome in some eyes prone to it, and it is preventable without surgery in most patients.

C – About the Caffeine:

XX – 35) We conclude that the caffeine is poisonous, treacherous and a scattered health worsening factor. The caffeine protracted use intoxicate at least by 19 pathological ways:
1) The caffeine effects are different after few minutes, after few hours and after months. The same occurs with theobromine (chocolate).
2) The personal sensibility to the caffeine is varied: In each patient, the doses and effects are different. There is no dose-response pattern. The main origin of this personal sensibility is inheritance, but it also can be acquired. Some resistant patients become sensible to caffeine with aging. Smoking protects the person from some effects of caffeine. Some people are entirely intolerant to caffeine, and to them even one little cup of coffee or a small chocolate is poisonous and cause them to be sick. The affirmation that "to drink until 300 mg of caffeine per day is safe to everyone" is a gross error.
3) Caffeine is treacherous: caffeine alone, or with analgesics, reduces the migraines and headaches in minutes, but after few hours or at the next day the caffeine is the main etiology to all the migraines and variants. Caffeine doubles the total number of patients suffering, and it increases all their migraines, signs and symptoms.
4) Caffeine is a generic aches (pain) intensifier everywhere in the body, after months of daily use.
5) Caffeine causes edemas everywhere. After months of daily use, Caffeine retains water in the body, it increases the fluids retention caused by other etiologies or risk factors, which results in the Fluids Hypertension Syndromes and small spread edemas. Caffeine daily drinks can increase the body weight up to 4 kilograms (8.8 pounds) only with retained water. Caffeine is not a diuretic.
6) Caffeine alone is the etiology of more than 200 sicknesses, but together with other etiologies, caffeine is a worsening factor of more than 500 signs, symptoms and sicknesses above listed at the Summary.
7) Caffeine and its metabolites are carcinogenic. When already there are cancer cells, the caffeine is also toxic to them and stimulates its dying, without entirely curing the cancer. So, caffeine is also a chemical therapy to cancer.
8) Caffeine is treacherous: it improves the mood, but after minutes it causes and worsens many psychological disorders.
9) Caffeine worsens many psychiatric disorders. We suspect that caffeine also causes some of them.
10) Caffeine is treacherous: it stimulates the physical and cardiac performance, but after years, it causes cardiac, hypertensive and vascular disorders.
11) Caffeine worsens many autoimmune disorders. We suspect that caffeine also causes some of them.
12) Caffeine causes aseptic neuritis, neuralgia and other neurological disorders.
13) Caffeine causes blood micro-circulatory pathologies, as the retinal degeneration.
14) Caffeine weakens the connective tissues, the eye's sclera and the cornea, killing their cells.
15) Caffeine weakens the cartilages, mainly after 40 years of age, killing their cells and causing rheumatism.
16) Caffeine weakens the teeth and the bones causing decalcification, killing their cells and stimulating fractures in the elders.
17) Caffeine causes addiction. Medicaments with caffeine, coffee, tea, cola, guaraná, and chocolate have delicious immediate physical and psychological effects. After few hours, when they cause sufferings, the patient is stimulated to drink more of them. So, all caffeine users have physical and psychological dependence from it, they refuse to know this, and it is difficult to stop its use. Stopping the caffeine use usually causes one week of headaches.
18) Caffeine is teratogenic with variegated penetrance and expression. There is no pattern, because it depends from the time, dose and the genetic sensibility of the fetus. Caffeine can cause the embryo death. The fetuses and breast feeding babies have no defense against the caffeine intoxication from their mothers. Caffeine drank by the pregnant can cause many congenital and late onset sicknesses in her children.
19) Caffeine is scattered toxic to human, animal and vegetable health. Few are the insects and microbes which are not intoxicated by caffeine.

XX - 36) We conclude that caffeine is useful as a medicament to some people in some circumstances:
   a - Each one coffee, tea, caffeinated soft drink, decaffeinated coffee and tea, medicament with caffeine, etc, as they have different compositions besides the caffeine, they also have some different effects in each person.
   b - As any medicament, caffeine has beneficial indications, warnings, relative and absolute contraindications.
   c - Caffeine has collateral effects that arise and worsen with high dosage and protracted use.
   d - The individual endurance or sensibility to caffeine depends from his enzymatic detoxifying capacity, which is consequent to the genetic (inherited) characteristics and other simultaneous hormones, medicaments or toxins that he is receiving.
   e - Properly used as a medicament, caffeine is helpful. Indiscriminate and heavily everyday used for years or decades, the caffeine causes toxic effects and more than 400 signs, symptoms and sicknesses, besides many headaches and migraines.
   f - On the countries where the very cold climate turns the beverages with caffeine useful to life, their popular continual daily use for more than one hundred years probably reduced there the persons more sensible to the caffeine intoxication. Most people now living at the very cold countries must be resistant to the caffeine deleterious effects, or they only present the caffeine sicknesses after their reproductive age. This genetic selection caused by the caffeine also causes statistical differences about the caffeine sicknesses between the different populations.

D – About Prevention, Treatment and Cure:

XX – 37) We conclude that to prevent the premenstrual tension and the risk of a brain stroke, any women with her physiologic estrogen, and specially those taking contraceptives with estrogen, must stop the other preventable risk factors, as caffeine, wine, beer, excessive water drank, Ergots and Triptans.

XX – 38) We conclude that it is better to medicate the beginning of the raising intraocular pressure at the migraine phase and simultaneously to prevent the glaucoma, than years later to try to stop the progressive glaucomatous big cup already with incurable visual lesion.

XX - 39) We conclude that to prevent the worsening of the diabetic retinopathy, the diabetic patient must:
   • Avoid drinking caffeine, beer, wine and excessive water, in order to prevent as peaks in the Cerebrospinal fluid pressure as the weakening of the arterial capillaries.
Avoid the eye drops that lower the intraocular pressure, unless he presents an advanced glaucoma.

XX – 40) We conclude that the main prevention and treatment to all migraines, migraines variants, signs, symptoms and sicknesses from the three Fluids Hypertension Syndromes is reducing the patients’ habitual excessive drinks of water, beer, wine, coffee, caffeinated soft drinks and chocolate. This reduction lowers their Intraocular, Cerebrospinal and Inner ear fluids pressures with few or no medication. There are etiologies as aging, inheritance, and others that we cannot change.

E – About Economics:

XX – 41) We conclude, besides this research, that nowadays:

- The main etiologies for the more than 500 above mentioned signs, symptoms and sicknesses are the daily drinks of caffeine and theobromine from coffee, tea, colas, chocolate and medicaments, beer, and wine which are toxins, and excessive water.
- These daily toxic drinks are delicious and cause psychological and physical dependence. They become vices. So, these hundreds health disturbs are consequent to the populations' vices.
- The populations and physicians are not been warned and do not know anything about these vices and their consequences.
- Each one healthy person user of these toxins thinks that he is not addicted, and when advised about it, he does not believe it.
- The patient only begins to believe that he must get free from his vices when he becomes sick and does not cure with the usual medicine. Some people, even when advised, can not get free from their vices.
- The populations pay their vices with their health and their money. So, the beverages industries and many of the government's profits rely on the peoples vices and sufferings. It is much more profitable and socially acceptable to sell caffeine, beer and wine, than cocaine or marijuana.
- The populations are stimulated to drink these toxins by the beverages industries and by their governments. The media coverage is paid to spread to the populations good things about these beverages and to stimulate their use.
- The medical industries profit with the therapies of the people's sicknesses caused by these vices. The sickness prevention is not profitable. So, the medical industries prefer to medicate them than to prevent or to cure them. The medical media only advertises to the physicians the profitable medicine. So, the physicians are stimulated only to medicate than to prevent or to cure these sicknesses and vices.
- As these vices are spread world-wide, there are increasing people sick from these intoxicants, and there are increasing profits to the beverages, governments and medical industries.

XX – 42) We conclude that the patients suffering from the Ocular, Cerebrospinal and Inner ear Fluids Hypertension Syndromes, as Migraines, Variants, Headaches, Rhinitis, Sinusitis, Otitis, neuralgia, Fibromyalgia, other signs, symptoms and sicknesses, and many sicknesses caused or worsened by caffeine, are curable, because most of our patients have cured with the above orientation. Therefore, their definitive damage and sicknesses, as Normal (Peak) Tension Glaucoma, Benign Intracranial Hypertension, Sensorineural Hearing Loss, Ménière disease, neurological disorders, some cancers and others, are preventable.

We apologize to those patients that we could not cure before, because we did not know enough about these syndromes. From now on, we shall not do this medical fail again!

I am grateful to live in a country and time where there is freedom to write and say these truths, without being arrested or burned on a stake.

XXI) - Quotes and References
There are published many similar papers and we could not mention all of them. We are thankful to all doctors who taught us some knowledge about these sicknesses. Their participation was essential to this e-book. We are grateful and proud to cite them and quote their excellent work:


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You may send some commentary or suggestion to:
http://www.izecksohn.com/leonardo/suggestion.html

We presented this paper, as a summarized form, on the following medical meetings:
- Third Annual Headache Research Summit of the National Headache Foundation, on February 2006, California, USA.
- Unimed Leste Fluminense, meeting about Migraine, Niterói, RJ, Brazil, on April 04, 2009.
- Sociedade Brasileira de Oftalmologia, ophthalmological meeting on December 10, 2010. No one ophthalmologist was there to see or hear it: it was the negative record of this society.


**XXII) - Appendage**

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<th>Drug Name</th>
<th>Active Ingredients</th>
<th>Caffeine</th>
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<td>1. Acetaminophen, aspirin and caffeine</td>
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<td>4. Acetaminophen, butalbital, caffeine, and codeine phosphate</td>
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medicaments with caffeine on the USA.
(Food and Drug Administration, April 20, 2.008)
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<td>Acetaminophen; caffeine; dihydrocodeine bitartrate</td>
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<tr>
<td>27.</td>
<td>Ergotamine tartrate and caffeine</td>
<td>Caffeine; ergotamine tartrate</td>
<td>100 mg</td>
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<tr>
<td>28.</td>
<td>Esgic</td>
<td>Acetaminophen; butalbital; caffeine</td>
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</tr>
<tr>
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<td>Acetaminophen; butalbital; caffeine</td>
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<tr>
<td>30.</td>
<td>Excedrin (migraine)</td>
<td>Acetaminophen; aspirin; caffeine</td>
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<td>Femcet</td>
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<tr>
<td>32.</td>
<td>Fioricet</td>
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<td>Acetaminophen; butalbital; caffeine; codeine phosphate</td>
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<td>Fiorinal w/codeine</td>
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<td>Aspirin; caffeine; orphenadrine citrate</td>
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<td>Invagesic forte</td>
<td>Aspirin; caffeine; orphenadrine citrate</td>
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<td>38.</td>
<td>Lanorinal</td>
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<td>Migergot</td>
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<td>Aspirin; caffeine; orphenadrine citrate</td>
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<td>Norgesic forte</td>
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<td>43.</td>
<td>Orphenadrine citrate, aspirin, and caffeine</td>
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<td>45.</td>
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<td>Phrenilin with caffeine and codeine</td>
<td>Acetaminophen; butalbital; caffeine; codeine phosphate</td>
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<td>47.</td>
<td>Propoxyphene compound 65</td>
<td>Aspirin; caffeine; propoxyphene hydrochloride</td>
<td>32.4 mg</td>
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<td>Propoxyphene compound-65</td>
<td>Aspirin; caffeine; propoxyphene hydrochloride</td>
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<td>Propoxyphene hydrochloride w/ aspirin and caffeine</td>
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<td>Acetaminophen; butalbital; caffeine</td>
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<td>53.</td>
<td>Wigraine</td>
<td>Caffeine; ergotamine tartrate</td>
<td>100 mg</td>
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**Brazilian trademarks soft drinks supposed with Caffeine,**
Because most of them do not mention Caffeine on their labels.
(this list is incomplete)

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<td>Chá verde</td>
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<td>Coca-Cola</td>
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**Brazilian trademarks medicaments with Caffeine,** ranging from 30 mg up to 65 mg in each tablet, included in the “Dicionário de Especialidades Farmacêuticas 2005/2006” and some over-the-counter medicaments (this list is incomplete):

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53. Tylenol DC