

CORNEAL EC GROWTH OVER TM



- 1) Post. polymorphous corneal dystrophy
- 2) ICE syndromes
- 3) Chronic intraocular inflam.
- 4) Following blunt trauma
- 5) Following penetrating injury
- 6) Rubeosis

RISKS FOR IOP RISE WITH STEROIDS



- 1) COAG
- 2) Family history of COAG
- 3) DM
- 4) Myopia

VF DEFECTS



- 1) Paracentral and nasal step - 50%
- 2) Paracentral - 25%
- 3) Nasal step - 25%
- 4) Temporal wedge - 2% (myopes)

INCREASED GOLDMANN IOP



- 1) Eyelid squeezing
- 2) Breath holding
- 3) Valsalva
- 4) Pressure on globe
- 5) Tight collar
- 6) Excessive fluoress
- 7) Tono not calibrated

LOW SCLERAL RIGIDITY



(Decreased Shiotz IOP)

- 1) High myopia
- 2) Cholinesterase inhibitors (PI)
- 3) Thyroid disease
- 4) Post cataract surgery
- 5) Scleral buckling
- 6) Compressive gases
- 7) RD surgery
- 8) Corneal edema?

HIGH SCLERAL RIGIDITY



(Increased Shiotz IOP)

- 1) Epinephrine or vasoconstrictors
- 2) Chronic glaucoma
- 3) Extreme myopia
- 4) Hypermetropia

IRIS DISTORTION



- 1) Axenfeld-Rieger's
- 2) ICE syndrome
- 3) PPD?
- 4) Rubeosis
- 5) Iris melanoma
- 6) Post trauma

TARGET IOP



An IOP that will presumably prevent future optic nerve damage

Factors:


- 1) Severity of existing optic nerve damage
- 2) Level of IOP at which nerve damage occurred
- 3) Current height of the IOP
- 4) Rapidity with which the damage occurred
- 5) Age (younger - lower IOP)
- 6) Race - blacks - lower IOP

TARGET IOP



- 1) Mild damage: 15-20% reduction
- 2) Moderate damage (field defects in both hemifields):
20-30% reduction

PIGMENTED TM

- 
- 1) Pseudoex.
 - 2) Pigm. dispersion syndrome
 - 3) Post hyphema
 - 4) Melanomalytic
 - 5) Aging
 - 6) DM
 - 7) Race
 - 8) Chronic uveitis
 - 9) Iris color
 - 10) Post PI
 - 11) Post trauma
 - 12) COAG ?

CUPPING



1) Chronic glaucoma

All the following have pallor:

2) AION (arteritic more common cause 60-80%)

3) syphilis

4) compressive lesion

5) hypotensive episode

6) Leber's hereditary optic neuropathy

7) trauma

8) myopic changes

9) coloboma

10) retinal or nerve causes

COAG RISK FACTORS



- 1) Increased IOP
- 2) Age
- 3) Family hx.
- 4) D.M.
- 5) Steroids
- 6) Myopia
- 7) Blacks > whites
- 8) CV disease

NTG



Intermittent elevated IOP

- 1) Posner Schlossman
- 2) Previous uveitic glaucoma
- 3) Diurnal fluctuation COAG
- 4) Hyposecretion COAG (burnt out)
- 5) Intermittent ACG
- 6) Previous steroid use

Other

- 1) Previous hypotensive (BP) episodes
- 2) ON compression
- 3) Methanol toxicity
- 4) Syphilis
- 5) Anemia
- 6) Old AION

TUMORS AND GLAUCOMA



- 1) Direct invasion angle
- 2) Neovascularization of angle
- 3) Hemorrhage (hyphema, ghost cells)
- 4) Necrosis with t.m. blockage by tumor cells
- 5) Displacement of lens-iris diaphragm

BLOOD IN SCHLEMM' S CANAL

Raised EVP

- 1) Retrobulbar tumors
- 2) TRO
- 3) SVC syndrome
- 4) Orbital varices
- 5) C-C fistula
- 6) Dural sinus fistula
- 7) Sturge Weber syndrome
- 8) Familial

Pressure differences

- 1) Excessive pressure with Goldmann lens
- 2) Ocular hypotony
- 3) Diffuse episleritis

DISC SIGNS OF GLAUCOMA

A) Generalized

- 1) Large cup
- 2) Asymmetric cups
- 3) Progressive enlargement of cup

B) Focal

- 1) Rim notching
- 2) Vertical elongation of cup
- 3) Splinter heme
- 4) Regional pallor
- 5) NFL loss

C) Other

- 1) Exposed lamina cribosa
- 2) Nasal displacement of vessels
- 3) Baring of circumlinear vessels
- 4) Peripapillary crescent

PLATEAU IRIS



Situation: increased IOP despite PI

- 1) Post. synechiae
- 2) Imperforated PI
- 3) Multiple iris cysts
- 4) Aqueous misdirection
- 5) COAG with narrow angles
- 6) Combined mechanism glaucoma
- 7) Steroid or cycloplegic effect

UVEITIS WITH GLAUCOMA

A) Autoimmune

- 1) Posner Schlossman
- 2) Fuch's heterochromia
- 3) Trabecular precipitates
- 4) Sarcoidosis
- 5) JRA
- 6) Iritis (usually low IOP)

B) Infectious

- 1) HSV
- 2) HZV
- 3) Syphilis
- 4) Toxoplasmosis

C) Other

- 1) Neovascular glaucoma

ACUTE INCREASED IOP



- 1) ACG
- 2) Posner-Schlossman
- 3) Inflammatory glaucoma (see above)
- 4) Malignant glaucoma
- 5) Postop glaucoma
- 6) Suprachoroidal hemorrhage
- 7) Retrobulbar hemorrhage

SIGNS OF AACG



- 1) Ciliary-conjunctival injection
- 2) Corneal edema
- 3) Cells in aqueous (but no keratic precipitates)
- 4) Glaucomflecken
- 5) PAS
- 6) Posterior synechias
- 7) Engorged iris vessels
- 8) Iris atrophy
- 9) Optic atrophy
- 10) Closed angle gonioscopically (narrow angle in fellow eye)

UVEAL EFFUSION SYNDROME

Due to increased scleral thickness or hydrostatic causes

A) Thickened sclera

- 1) Nanophthalmos
- 2) Scleritis
- 3) Hyperopia

B) Uveal inflammation

- 1) VKH
- 2) SO
- 3) Chronic uveitis
- 4) Post cryo or laser

C) Other

- 1) idiopathic
- 2) ocular hypotension
- 3) post-op
- 4) C-C fistula

DILATORS INDICATED



- 1) Aphakic / pseudophakic pupil block
- 2) Malignant glaucoma
- 3) Uveitic glaucoma
- 4) Nanophthalmos (usually)
- 5) Phacomorphic glaucoma
- 6) Spherophakia (microspherophakia)

MIOTICS INDICATED



- 1) COAG
- 2) Pigment dispersion (1st drug)
- 3) Pseudoexfoliation
- 4) Acute ACG
- 5) Plateau iris syndrome

MEDS WHICH DON' T LOWER IOP



- 1) Ketamine (about the same)
- 2) Succinylcholine (mild increase)

ANGLE ANOMALIES IN CONGENITAL GLAUCOMA



- 1) Anterior insertion
- 2) Barkan's membrane
- 3) No angle recession

ANGLE GRADING

Van Herick's Angle

Grade 1) $< \frac{1}{4}$ CT

Grade 2) $= \frac{1}{4}$ CT

Grade 3) $\frac{1}{4}$ - $\frac{1}{2}$ CT

Grade 4) > 1 CT

Scheie's Classification

Wide open - all structures seen

I: Hard to see over iris root; CB seen

II: SS seen

III: TM seen

IV: SL seen

Shaffer's Classification

A) Wide open (20-45%)

B) 10-20 degrees

C) < 10 degrees

D) Closed

Spaeth Classification

1) Angle of iris (10-40)

2) Configuration (q, r, s)

3) Insertion (A-E); A=SL; E=CB

PIGMENT DISPERSION SYNDROME TREATMENT



- 1) Pilo
- 2) Beta blocker
- 3) Alpha agonist
- 4) Xalatan
- 5) ALT
- 6) Trabeculectomy

UNILATERAL GLAUCOMA



- 1) PHPV
- 2) ICE
- 3) Fuch's
- 4) Neovascular
- 5) Uveitic
- 6) Glaucomatocyclitic crisis

ICE SYNDROME TREATMENT



- 1) Antiglaucoma meds
 - may need lower IOP than usual for corneal edema
- 2) Muro-128 for corneal edema
- 3) ALT useless
- 4) Implant (high trab failure rate)
- 5) PKP

NVG



- 1) DM
- 2) CRVO, BRVO
- 3) BRAO
- 4) RD
- 5) Retinal tumor
- 6) Uveal tumor
- 7) Uveitis
- 8) Ocular ischemic syndrome
- 9) Trauma

VESSELS IN THE ANGLE

A) Normal

- 1) Radial iris vessels
- 2) Circumferential c.b. vessels
- 3) Anterior ciliary vessels
- 4) Don't arborize
- 5) Don't cross SS

B) NV

- 1) Cross from c.b. → SS → t.m.
- 2) Arborize over t.m.
- 3) "Trunk-like vessels"
- 4) May have accompanying fibrosis

C) Fuch's

- 1) Fine
- 2) Branching
- 3) Unsheathed
- 4) Meandering

HVF DEFINITIONS 1



- 1) 24-2: 54 points (incl 2 points for blind spot)
- 2) 30-2: 76 points
- 3) FP: buzzes when no stimulus
($>33\%$ is significant)
- 4) FN: doesn't buzz when suprathreshold stimulus is
presented (9 dB)
($>33\%$ is significant)
- 5) FL: buzzes when stimulus is in blind spot
($> 20\%$ is significant)

HVF DEFINITIONS 2



- 1) STF: fluctuation during duration of test; determined by rethresholding 10 points (Octopus retests all 59)
- 2) LTF: fluctuation between 2 different tests
- 3) MD: location-weighted *mean of the values in the total deviation plot* (“the average height of the entire hill of vision”)
- 4) PSD: standard deviation from mean deviation for each point (always a positive number)
- 5) CPSD: $CPSD = (PSD^2 - STF^2)^{1/2}$; CPSD is PSD corrected for influence of STF
- 6) Total deviation plot: plot of deviation at each point relative to age-matched controls
- 7) Pattern deviation plot: plot of total deviation - mean deviation for each point