The Case of the Missing Connection!

- 18 year old Hispanic female referred from OD for “suspicious optic nerves”
- c/o blurred vision for many years, reportedly getting worse
- No significant POH
- No significant PMH except “allergies”
- FH of glaucoma in grandparent, grandmother blind, reason unknown
- No known drug allergies

Examination Findings

- Mild myopia, BVA 20/60 OU

Questions

- Is the visual loss real?
- Is this glaucoma?
- Is treatment indicated?
- Anything else to be considered?
- What to do now?
In the Blink of an Eye

- JH a 19 year old Caucasian male was seen for routine eye care. Examination was normal except for IOP 28/23 @ 10:00. ONH unremarkable at 0.4 OU.
- Refractive error -3.50 OD / -4.00 OS
- Pachymetry 560 OU
- Visual fields: Questionable nasal step OD

Follow-up visit 2 weeks
- IOP 29/22
- RNFL: OD 81 / OS 94
- Tx: Patient started on qd am BB OD (no insurance)
- Follow up 2 weeks:
  - IOP 18/19
  - Follow up 3 months

In the Blink of an Eye

- Patient NS at next visit
- Phone call made no response
- Patient returned at 8 months
  - IOP 52/25
  - C/D as shown
  - VA: HM @ 3 ft OD
  - VF: Not able OD
I Think I heard that before!

- TA a 48 y/o w female was referred for evaluation by GP.
- Previous h/o “possible glaucoma”
- Medical/ Family Hx negative
- IOP 21/22
- Pachs: 540/535
- Gonioscopy: CB /360/OU

I Think I Heard that Before

- Follow-up visit:
  - IOP 24/22 @ 10
  - VF: Normal OU
  - RNFL: slides
  - ONH: slides
I just want to work in my garden!

- AA a 70 y/o white female c/o decreased VA OU x 6 months
- VA 20/30 OD, 20/25 OS
- IOP 14/13 @2:00
- ONH as shown
- DFE: Mild RPE changes
I just want to work in my garden

- 2 weeks:
  - IOP 12/12 5:00
  - VF; Severe loss OU OD>OS
  - RNFL: As shown

- Tx: ?

Case Three: How Low Can You Go!

- SM a 40 y/o white female was referred for evaluation of glaucoma. Current Tx was Betoptic-S and Alphagan.
- VA 20/20 OD/OS
- Ta 12/12 @ 10
- SLE: wnl
- DFE: 0.7 OD / 0.9 OS
- VF: Early near fixation loss OS
- Gonioscopy: CB 360 OU
- Medical Hx: LBP (100/65), pulse 54, Raynaud’s, Migraine HA
- Family Hx: Negative
- Treatment ?
Case Three

- 4/15/02
  - Meds: Betoptic S, Travatan, Alphagan P
  - Ta: 14/14
  - VF: Increased loss OS (20%)
  - ONH: ? Progression OS
  - Treatment ?

Case Three

- Given the patients vascular status is there any additional therapy that would be appropriate?
  - Non-selective BB
  - CAI
  - Laser therapy
  - Gingko Biloba

Case Three

- 12/19/02
  - Meds: CPM = Gingko 400 mg po
  - Ta: 13/14 @ 8:00 am
  - VF: stable
  - ONH: stable, no pit observed
  - Treatment ?

Case Three

- 1/13/04
  - Ta: 10/11 @ 2:00
  - VF: Progression OS?
  - Meds: no change
  - ONH: Drance?
  - Treatment ?
**Nocturnal Hypotension: It’s role in Visual Field Progression**

- Graham SL, Drance S: Surv Ophthalmol Jun 1999
- 84 patients 24 hour ambulatory BP
- Nocturnal BP variables were lower in patients with progressive VF loss
- Patients with > nocturnal dips were more likely to show VF loss even with good IOP control
- Increased risk of disc hem’s

**NORMAL TENSION: ABNORMAL RESULTS**

- ANDERSON et al AJO
- EXAMINED NTG’S FOR MULTIPLE VARIABLES (AGE, GENDER,BP AND MIGRAINES)
- MIGRAINES,DISC HEM’S MOST NOTABLE RISK FOR PROGRESSION
- AGE , RACE NEXT
- 230 PATIENTS/NTG/IOP< 20mm Hg

**How Low Can You Go!**

- 4/21/07
  - Meds: Alphagan P, Lumigan, Ginkgo
  - Ta:14/11 @ 9:30
  - Migraines increased x 4 weeks, episode of syncope x 1 week
  - Serial BP 2 AM 58/30/ pulse 54

**NTG**

- 99 WOMEN/61 MEN
- 23 WOMEN WITH H/O MIGRAINES
- 2 MEN
- WOMEN WITH MIGRAINES HAD FASTEST RATE OF PROGRESSION
Visual Field Loss

Case Three

4/21/04
- Meds: Betoptic-S, Alphagan, Xalatan, Ginkgo
- Ta: 14/11 @ 9:30
d- Migraines increased x 4 weeks, episode of syncope x 1 week
- BP: 95/58, pulse 54
- VF: ? progression
- Treatment ?

NTG- Differential Diagnosis

- Diurnal Variation
- Vasculitis
- Optic Atrophy
- Old AION
- Previous RBON
- Compressive ON
- Chronic marijuana use
- Prior Hypotensive episodes
- Systemic Beta-Blocker
- “Burned out” Glaucoma
- Sub-acute angle closure
- History steroid use
- Ocular Ischemic Syndrome
- Burned out" Glaucoma
- Sub-acute angle closure
- History steroid use
- Ocular Ischemic Syndrome

Nocturnal and Diurnal Habitual IOP

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Timolol is Ineffective at Night

- Significant decrease in aqueous humor production during the day, but not at night
- Timolol is ineffective in IOP lowering at night

Case Three

7/18/05
- Patient s/p SLT OS x 2
- Meds: Cosopt, Lumigan, Ginkgo
- Ta: 15/11 @ 2:00
- VF: unstable
- ONH: ? Change OS
- Nocturnal BP 60/35
- 6/15/06
  - Ta: 14/12 @ 8:00
  - Meds: Cosopt, Lumigan, Ginkgo
  - VF: 10-2 no visible progression
  - Treatment ?
It’s not making any sense!

ER a 39 y/o H deaf/mute male was first seen for referral 4/2004.

PXE:
- VA 20/20
- IOP 26/17 @5:00
- Gonioscopy: CB/ mild pigment
- ONH: 0.6 0.4
- Pachs: 540/538
- DFE; CR scars

Follow up 3 wks:
- IOP: 32/24 @10:00
- VF: Nonspecific loss
- Tx: ?
Its not making any sense!

- Non-compliant/ No show intermittent x 2 years.
- IOP: 3/27/2008 40/27 @ 9:30
- C/D: as shown
- Tx: ?

Wow, I didn’t know that could happen!

- JN a 50 y/o white male referred from ER with blunt trauma to the OS after an auto accident and air bag deployment!
- Pt. c/o blur, pain, photophobia and redness.
- VA: 20/100 ph no change
- Ta: 20/38 @ 4:00
- SLE: half chamber hyphema OS
- Corneal abrasion OS
- Conjunctival laceration OS (- seidel)

Wow!

- DFE: no view
- B-Scan: Flat with Vitreous hemorrhage
- Tx: ?

Wow!

- S/P Tx Hyphema and IOP x 10 days
- IOP 20/22@ 12:30
- SLE: Hyphema cleared
- Gonio: OD 360 OU CB / OS AR 270 degrees
- DFE: Retinal Tear superior temporal
- Tx: ?
Too thin to be in!

- 27 y/o white female referred for evaluation of increased ONH OU PTC?
- BMI 14
- VA: 20/20
- SLE: wnl
- DFE: Drusen/ ONH edema
- IOP 29 /27
- Pachs: 560/550

Too thin to be in!

- VF: Defects scattered
- Tx?