

Good Practice or See You in Court?

Anthony B. Litwak, OD, FAAO

Program Director

OTCE

No Financial Disclosures

Case PC

- 35 yo obese aa female
- BMI 35
- PMH: HTN
- POH: unremarkable
- c/o mild headaches

Case PC

- BVA 20/20 OD 20/20 OS
- EOM full OU
- CF: FTFC OU
- PERRLA –APD
- Color: 14/14 OD 14/14 OS
- SL: unremarkable
- TA 15/16

▪ Management

- R/O Exogenous Agents (Vit A, Steroids, Accutane, Birth Control)
- Encourage Weight Loss
- Start Diamox 500mg Sequels BID
- Take Disc Docs
- Monitor 3 months VA, CV, VF And DFE/PRN

▪ Pseudotumor Cerebri (Idiopathic Intracranial Hypertension)

- Young Obese Females
- Normal Imaging Studies (MRI)
- Normal Or Small Cerebral Ventricles
- Increased Intracranial Pressure (LP)
- Normal CSF Composition (LP)
- 20-25% Develop Visual Loss Over Course Of Their Disease

- Management of Pseudotumor Cerebri

- R/O Exogenous Agents (Vit A, Steroids, Accutane, Birth Control)
- Weight Loss
- Diamox (1-4 Grams/Day)
- Monitor VA, CV, VF And Disc. If decline then:
- Optic Nerve Sheath Decompression
- Shunt Procedures

Case PW

- 5 o'clock Friday Walk-in
- 55 yo AAm
- PMH: HTN, Crohn's Disease
- Cc: Right eye red x 5 days, associated with pain (7 out of 10), photophobia, and blurred vision. Using Visine which does not improve redness. Denies trauma or prior episodes.

Case PW

- BVA 20/40 OD 20/20 OS
- EOM full OU
- CF FTFC OU
- Pupils: 3 mm OD 4 mm OS
- Right pupil minimally reactive ? R APD

- Slit Lamp Findings

- Right eye
- Conjunctiva - 2 + hyperemia
- Cornea with some fine KP OD
- AC 3+ cell/flare
- Iris: unremarkable
- Left eye
- Conjunctiva - white and quiet
- Cornea - clear with no edema
- Anterior Chamber – deep and quiet
- Iris - unremarkable
- TA 14 OD 18 OS

Case PW

- Impression:
 - 1. Iritis OD probably 2 to Crohn's Disease (1st episode)
- Plan:
 - Start Pred Forte q2h OD
 - Start Homatropine 5% BID OD

- RTC RTC 1 week/PRN
- Lab Testing for Recurrent, Bilateral or Posterior Uveitis
 - CBC/ESR
 - ANA
 - ACE
 - RF
 - RPR/VDRL
 - HLA B27
 - Lyme titer
 - ELISA
 - CXR
 - PPD
 - TB Gold

Case MR

- 66 yowf
- -PMH
- +FOH mother blind glaucoma
- c/o eye glass check

Case MR

- VA c 20/20 20/20-2
- MR: +2.00 -1.50 x 90 20/20
 - +2.25 -1.50 x 90 20/20
 - +2.50 add 20/20 OU
- EOM full
- CF FTFC OU
- PERRLA –APD
- SL unremarkable
- TA 15 OD 16 OS
- DFE
- Lens 1+ NS OU
- C/D .8 OD .7 OS
- M, V, P nl OU

○ Impression:

- Refractive Error
- Early Cataracts OU
- Probable Large Physiologically Cupping OU

○ Plan:

- Order new glasses
- Disc Docs
- RTC 1 yr/PRN

- What did we learn?
- Need to be able to differentiate large physiologically cupping from glaucoma. Measure optic nerve size, apply ISNT rule, evaluate NFL, order OCT and VF if unsure.
- A family history of a close relative that is blind from glaucoma should get your attention
- “Normal IOP” does not rule out glaucoma
- A photograph can document you missed the proper diagnosis

Case CMT

- 65 yobm
- PMH: HTN
- POH: told he was a G suspect
- H/O of boxing
- VA 20/25 OD 20/25 OS
- CF FTFC OU
- No APD
- SL unremarkable OU
- TA 18, 17, 22, 20, 19, 22, 16, 19, 23 OD
- 18, 16, 22, 20, 18, 22, 17, 18, 22 OS
- CCT 525/532

▪ Diagnosis

- 1. Traumatic Optic Atrophy OD>OS
 - Superior optic nerve pallor with NFL and GCA loss OU
 - Normal visual fields
 - -h/o of boxing
- 2. G suspect OU
 - TA 18, 17, 22, 20, 19, 22, 16, 19, 23 OD
 - 18, 16, 22, 20, 18, 22, 17, 18, 22 OS
 - -CCT 525/532
 - -C/D .4 OD .4 OS
 - -VH 2.1 OD 2.1 OS
 - -NFL D2/N OD D1/N OS
 - -Normal VFs OU

▪ Plan

- 1. Will start latanoprost qhs ou, based on elevated IOP in conjunction with optic nerve damage from traumatic optic neuropathy. Target IOP < 18 OU.
- 2. RTC 1 mo for IOP check and gonio/PRN
- 3. Stop boxing

- Work up for optic atrophy

- MRI head and orbits
- CBC, CHEM panel, ANA, ACE, RPR, FTA-ABS, Lyme Titer, CXR
 - Suspect - Traumatic optic neuropathy

- Do you need to scan?
- Other signs of trauma
- Iridodialysis
- Sphincter tear
- Angle recess
- Asymmetric cataract
- h/o trauma or boxing

Case MT

- 75 yoAA
- PMH – NIDDM x 15 years, HTN x 20 years, Erective Dysfunction
- POH - Normal Tension Glaucoma Suspect OU 2' to Optic Nerve Appearance.
- IOP 14-22 OU.
- C/D .6 VH 1.9 NFL: N-/D1 OD
- .5 VH 1.9 NFL: N-/N-
- VF 24-2 SS Normal OU 2/13
- -FOH
- c/o : Pt reports new onset of blue-purple "cloud" over OD below fixation that pt only notices when he covers OS. Onset occurred 1 day prior. The distortion moves with his gazes and is more noticeable when he looks to his right. Denies flashes of light, HAs, or change in medications.
- He had not taking sildenafil x 1 month.
- Denies previous episodes of similar distortions.

Case MT

- BVA 20/40 OD 20/25 OS
- EOM full
- CF FTFC OU
- Pupils: PERRLA –APD
- Amsler inf distortion OD normal OS
- Slit lamp is unremarkable
- TA 18/19

Case WN

- 45 yowm
- c/o difficulty reading
- VA s 20/40 OD and 20/25- OS
- MR
 - +.25 -.50 x 90 20/25-2 OD
 - +.25 -.50 x 90 20/20 OS

- ADD +1.25 20/20 OU
- EOM full
- CF FTFC OU
- Pupil show ? Tr R APD
- SL WNL
- TA 19 OD and 19 OS
- Don't ever record ? APD or ? Disc Pallor
- Unless you are going to do something about it
- MRI head and orbits
- CBC, CHEM panel, ANA, ACE, RPR, FTA-ABS, Lyme Titer, CXR
- What will get you in court?
- Not working up:
- Unexplained VA loss
- ? APD
- ? Disc Pallor
- ? Disc Swelling

Case JS

- 84 yo aa male
- PMH: HTN
- POH: Cataracts
- No complaints
- BVA 20/25 OD 20/25
- EOM full
- CF FTFC OU
- PERRLA –APD
- SL: unremarkable
- TA: 17 OD 18 OS
- Lens : 1+ NS 1+ PC OU

○ Impression:

- Cataracts OU M=V
- Choroidal Nevus OD
- 5mm x 4mm x 1.8 mm
- Overlying drusen, no lipofuscin
- Asymptomatic
- Not adjacent to optic nerve
- No subretinal fluid
- B scan shows high internal reflectivity

▪ Plan:

- Photos of Choroidal Nevus

- RTC 4 mo for DFE and repeat photos and compare with old photos /PRN
 - Collaborative Ocular Melanoma Study¹
 - Prospective, 3 multicenter trials:
 - Large Choroidal Melanoma Trial
 - Enucleation vs. enucleation preceded by external beam radiotherapy
 - Medium Choroidal Melanoma Trial
 - Enucleation vs plaque radiotherapy with I-125 brachytherapy
 - Small Choroidal Melanoma Trial
 - Natural history
 - COMS – Large Choroidal Melanoma¹
 - >10 mm thickness OR >2 mm thickness and >16 mm basal diameter
 - Melanoma-related mortality
 - Enucleation: 28% at 5 years, 40% at 10 years
 - External beam radiation preceding enucleation: 26% at 5 years, 45% at 10 years
 - NO DIFFERENCE in patient survival between the two groups
 - COMS – Medium Choroidal Melanoma¹
 - 2.5 – 10 mm thickness, basal diameter <16 mm
 - Melanoma-related mortality
 - Plaque radiotherapy: 10% at 5 years, 18% at 10 years, 21% at 12 years
 - Enucleation: 11% at 5 years, 17% at 10 years, 17% at 12 years
 - NO DIFFERENCE in patient survival between the 2 groups
 - COMS – Small Choroidal Melanoma¹
 - Observation to determine natural history
 - Tumor growth
 - In 21% by 2 years
 - In 31% by 5 years

- Mnemonic TFSOM-UHHD

- To Find Small Ocular Melanomas Using Helpful Hints Daily:

- T (Thickness >2 mm)
- -"FLAT" becomes a very important chart documentation
- F (subretinal Fluid)
- S (Symptoms) – blurred vision, flashes, floaters
- O (Orange pigment)
- M (Margin near the optic disc)
- UH (Ultrasound Hollowness)
- H (Halo absent)
- D (Drusen absent)

- Nevus vs Melanoma

- Pigment choroidal tumors that display 0 factors have 3% chance for growth at 5 years and most likely represent choroidal nevi. Tumors that display one factor have a 38% chance for growth and those with two or more factors show growth in over 50% of cases at 5 years.
- Most of those tumors with two or more risk factors probably represent small choroidal melanoma and early treatment is generally indicated.

- Curr Opin Ophthalmol. 2002 Jun;13(3):135-41.
- Clinical features of small choroidal melanoma.
- Shields CL, Shields JA.

Case NG

- 65 yo aa male
- PHM: NIDDM x 2 yrs, HTN x 20 years
- POH: s/p cat surgery OU
- FOH: unknown
- c/o blurry vision OU

Case NG

- BVA 20/20 OD 20/25 OS
- EOM full OU
- CF FTFC OU
- PERRLA tr R APD
- SL: C cl OU
- AC d&q OU
- Iris no NV OU
- Gonio: 4+ open OU, No Angle recess, PAS or NV OU
- Mild PCO OS M=V
- TA 20/24 @9am

- DFE recorded
- C/D cannot judge OD due to disc swelling
- 360 degree flame hemes extends into periphery with few CWS OD
- No macular heme or edema OD
- C/D .4 OS VH:2.0 NFL intact
- M, V, P wnl OS

- Impression:
 - 1. CRVO OD
 - 2. PCO OS V=M=20/25
 - 3. G suspect OS
 - IOP 24
 - C/D .4 OS VH:2.0 NFL intact

- Plan:
 - Fundus photos
 - Patient education
 - Refer to PC to monitor Diabetes and HTN
 - Defer YAG OS for now
 - RTC 3 mo IOP check and to monitor for NVG/PRN

- Differentiate Between 2 Types of CRVO's

- Ischemic CRVO
- Non-Ischemic CRVO

- Ischemic CRVO

- More likely to have vision worse than 20/200
- APD present
- Decreased visual fields
- 10 DA of non-perfusion with fluorescein angiography
- ERG Delayed B Wave
 - Reduced B Wave Amplitude
 - Reduced B/A Amplitude Ratio
- Gross intraretinal, macular edema and disc edema
- Cotton wool spots

- Non-ischemic CRVO

- Typically acuity better than 20/200 (but can be reduced from macular edema)
- Mild visual field loss
- No APD
- More scattered hemorrhages, fewer CWS
- Less 10 DA of non-perfusion on FA

- Complications of CRVO

- Mild to severe vision loss
- Macular edema
- Macular non-perfusion
- Neovascularization of the iris
- Neovascularization of the angle
- Neovascular Glaucoma
- Neovascularization elsewhere in the retina and/or of the disc
- Disc collaterals are common after CRVO
- Vitreous hemorrhage

- Risk by numbers

- Ischemic CRVO
 - 58% for NVI
 - 47% for NVA with associate glaucoma
 - 5% for NVD
 - 8% for NVE

- Non-ischemic CRVO
 - 3% for NVI
 - 1% for NVA
 - 0% for NVE and NVD

- 90 Day Glaucoma

- Greatest misnomer in eye care
- Don't want to see the patient back in 90 days to see if they developed neovascular glaucoma
- NVG onset typically within 6 Months of CRVO, but can develop iris NV in 2 weeks. Median: 61 Days
- 1/3 of the non-ischemic form convert to the ischemic form in 3 years
- 15% converted within the first 4 months
- Want to diagnose iris neovascularization before it infiltrates the angle and causes neovascular glaucoma

- Management of CRVO

- Prophylactic IOP lowering if elevated IOP(>20), treat fellow eye if elevated regardless of glaucoma damage
- Determine whether it is ischemic or non-ischemic CRVO

- Management of Non-Ischemic CRVO

- Anti-VEGF if macular edema is present
- If no macular edema, follow every month for the first 6 months with Iris check, IOP check, gonioscopy and DFE

- Look for signs of NVI, NVA. Main goal is to abort NVG.
- Probability of conversion to ischemic at 6 months is 13.2% and at 18 months is 18.6% for patients older than 65 years
- 6.7% and 8.1% for patients 45 to 64 years old
 - Management of Ischemic CRVO
 - Anti-VEGF injections if macular edema is present
 - Look for signs of NVI, NVA. Main goal is to abort NVG.
 - High magnification SL of the pupil border and gonioscopy
 - If very ischemic, prophylactic anti-VEGF is considered
 - If not, patients followed every 2 weeks for NVI and NVA check
 - Macular edema vs non-perfusion
 - Treatment
 - Anti-Vegf injections for iris NV, angle NV, or retinal NV. PRP may reduce need for repeat injections for recurrent NV.
- Determine any underlying systemic diseases
 - Typically, no workup is needed for patients over 65 with known risk factors for unilateral CRVO
 - If young patient or unknown cause
 - Blood pressure and pulse
 - Fasting blood glucose
 - CBC with differential and platelet count
 - Serum protein electrophoresis
 - FTA-ABS
 - ANA
 - Palpation and auscultation of the carotids
 - Good Practice Guidelines
 - Avoid writing “trace” or “?” when describing APD, optic nerve swelling, optic nerve pallor or other findings that you are NOT going to further work up
 - Always explain the cause of reduced vision
 - Document clinical findings that support your diagnosis
 - Your management plan must address your clinical findings and diagnosis