Ocular Potpourri - Anterior and Posterior Segment Case Presentations to Help You Clinically

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Pennsylvania Optometric Association
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Disclosures

~ I will mention many products, instruments and companies during our discussion, I don’t have any financial interest in any of these products, instruments or companies.

~ All of these cases have entered/referred to my practice.

Case 1

25 year old man

~ Patient has been to 3 ophthalmologists and 1 optometrist in the past year
~ Patient complains of a "ghost image" OS
~ Has had 4 dilated exams in past year, and no diagnosis yet
~ He is very passionate that his vision is clear OD and "ghosty" OS. He wants to know why.

“Ghost Image” OS

Visual Acuity: 20/20
Corneal Clearance: 20/20

Current Correction
- R: -2.50-1.00 x 180
- L: -3.25-1.00 x 180

External Ocular Motility: Full, unrestricted
CT: Ortho D/N

~SLE-unremarkable
~Fundus-unremarkable

Previous unremarkable tests:
- Topography
- Fluorescein angiography
- CAT scan
- MRI

Any Thoughts About “Ghost Images”?

Previous unremarkable tests:
- Topography
- Fluorescein angiography
- CAT scan
- MRI
Forme Fruste Keratoconus
- Treatment
- RGP lens in office and trial frame over refraction
  - Eliminated “ghost image”
- Patient currently only in spex
  - Not interested in RGP lens
- RTC 1 year, B VA and topographies

Case 2

Advanced Keratoconus

Topography OD

How I felt when I finally realized keratoconus starts posteriorly
What happens when the posterior cone gets too steep and Descemet’s membrane ruptures?

Hydrops

Corneal Transplant

Descemet’s Stripping Endothelial Keratoplasty

DSEK

28 year old man

- Had LASIK 14 months ago
- His right eye is now very blurry
- He tried calling for an appointment the center is now closed
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Treatment

- Antibiotic, Vigamox tid
- Pain management
  - Depending on severity
    - Bandage contact lens
    - Oral ibuprofen (200 mg)
    - Maximum 1200 mg daily
    - Oral acetaminophen (500 mg)
    - Maximum 4000 mg daily
    - Oral narcotic (need DEA number)
      - They provide good pain relief
      - A degree of sedation
      - Tend to minimally impact the digestive system and kidneys
      - Oral acetaminophen, ibuprofen or naproxen
    - Topical NSAID

Review of Map-Dot-Fingerprint

Treatment Options
(Once Abrasion Resolved, to Help Prevent Recurrence)

- Medically
  - Hypertonicities
  - Gels
  - Ung
  - Bandage contact lens

- Surgical/Procedures
  - Anterior stromal micropuncture
  - Debridement
    - Chemically
    - Mechanically
    - Beaver-tailed/diamond burr
  - Excimer phototherapeutic keratectomy (PTK)

Excimer Phototherapeutic Keratectomy (PTK)

- Corneal Opacities
  - Scarring
  - Granular dystrophy

- Surface Irregularity
  - Saltzman nodules

- Surface Breakdown
  - Epithelial basement membrane dystrophy

PTK Procedure

- Removal of epithelium
- Manual debridement
- Polish with excimer

PRK
PTK

Post op Regimen

- Vigamox and Pred-Forte q2°
- Until wound is closed
- Bandage contact lens (B CL)
- Vitamin C, 1000 mg/day x 1 month
- NP-artificial tears
- Sunglasses in any UV

Before & After

Case 5

Patient Wants Second Opinion

42 year old woman
OD red and painful

Va 20/20
cc 20

Current Correction
R -2.00-1.00 x 180
L -3.00-1.00 x 180

EOMS: full, unrestricted
CT: ortho D/N
PERRL (-) APD
CF: full by FC OU

Slit Lamp Evaluation

- Findings
  * OD only red and injected
  * Stuck shut this morning
- Diagnosis
  * Bacterial conjunctivitis
- Ocular history reveals
  * 3rd time in past 10 months
  * Vigamox
  □ Successfully resolves in 2-3 weeks

Why recurrent and slow to resolve?

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New Diagnosis?

- Recurrent bacterial conjunctivitis secondary to dacryocystitis

- Treatment
  - *Vigamox* gtts TID
  - *Azithromycin* (Zithromax)
    - Dsp: 5 day z-pak
    - Use as directed PO

- Discussion
  - Dilation and Irrigation
    - Contraindication or indication?
    - This case dilation and irrigation...system open
  - If confirmed nasolacrical duct blockage
    - Surgical consult for dacryocystorhinostomy (DCR)

Case 6

84 year old woman

- Right eye red and painful
- Started about 10 days ago
- See photos for discussion

Diagnosis? Treatment?

1 Week Later

- Treatment Plan?
  - Continue with topical and oral antibiotics
  - Surgical consult for dacryocystorhinostomy (DCR)
35 year old man

- Wants another opinion due to "hemorrhage on my right eye"
- Happened 3 days ago after vomiting
  - Claims food poisoning from chicken Caesar salad
  - Still feels a little nauseated
- Saw ophthalmologist 3 days ago, told he had a bruise on his eye and it should go away in 1-2 weeks

35 year old man

- BVA 20/100 OD, 20/70 OS
- Hx of amblyopia OD
- Current Rx OD +5.50 OS +4.50
- Any concerns?
- Patient noticed blurry vision OS
  - Started 2 weeks ago
  - Did not mention because he is more concerned about the blood on his right eye
- Headaches for 2 weeks, decrease if patient stands up
- ROS: unremarkable
- Decide to dilate OU
Retinal Findings

Discussion

Differential Diagnosis

- Hypertensive retinopathy
- Blood dyscrasia
- Terson’s syndrome
- Valsalva retinopathy
- Purtscher’s retinopathy
- Shaken baby syndrome

Terson’s Syndrome

- Terson’s syndrome originally was defined by the occurrence of vitreous hemorrhage in association with subarachnoid hemorrhage.
- Terson’s syndrome now encompasses any intraocular hemorrhage associated with intracranial hemorrhage and elevated intracranial pressures.
- Intraocular hemorrhage includes the development of subretinal, retinal, subhyaloidal, or vitreal blood.
- The classic presentation is in the subhyaloidal space.

Treatment

- Emergency referral to neurologist due to high suspicion of intracranial hemorrhage and elevated intracranial pressure
- Intracranial hemorrhage confirmed with MRI
- Patient later diagnosed with Hairy Cell Leukemia and cryptococcal meningitis

Case 8

37 year old woman
OD red and painful

Current Correction
R: -2.50-1.00 x 180
L: -3.25-1.00 x 180

VA: 20/30
CC: 20/20

EOMS: full, unrestricted
PERRL (-)APD
CF: ortho D/N
CF: full by FC OU
Slit Lamp Evaluation

- Diagnosis
- Ocular history
  * First episode
- Treatment
  * Viroptic
  * Artificial tears
  * Steroid
    - Always, never or sometimes?
- Oral anti-herpetic needed...?
  * Probably not
  * Unless...?
    - Failure to respond to topical treatment

1 week later

- Resolved
- Chance of occurring again within 12 months?
  * 25%

Cranium Keeper

- Viroptic should be used for how long?
  * 21 days via package insert/instructions

Slit Lamp Evaluation

- 5 Months Later
- Treatment
  * Viroptic
  * Artificial tears
  * Steroid
- Orals...?
  * Possibly
    - Educate patient on treatment options
      - 43% occurring again
  * Failure to respond

4 Months Later

- Ocular history
  * Third episode
- Treatment
  * Viroptic
  * Artificial tears
  * Steroid
- Oral anti-herpetic?
  * Probably
  * What dosage?

Herpetic Eye Disease Study

- HEDS I
  * Benefit from steroids in stromal keratitis
  * No benefit from oral Acyclovir in stromal keratitis
  * Benefit from steroids if iritis present

- HEDS II
  * No benefit from Acyclovir to stop progression to stromal or iridocyclitis
  * Maintenance dose 400mg BID, decreases recurrence by 41% within 1st year
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Saturday, June 7, 2008

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Cranium Keeper

- Percentages in HSV keratitis
  - 25%
  - 43%
  - 41%

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Case 9

- Treatment
  - Viroptic
  - Artificial tears
  - Acyclovir
    - 800mg 5x/day po
    - 400mg bid po

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8 year old girl

- Mom noticed the left eyelid has become red and has pimples
- Started two days ago
- Slowly getting more pimples on the eyelid
- Globe not affected

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Slit Lamp Evaluation

- Diagnosis
  - Herpes simplex blepharitis
- Treatment
  - 400 mg Acyclovir 5x/day
  - Call to pediatrician

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Case 10

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58 year old woman

 VA OD 20/200 OS 20/400
 Longstanding history of macular degeneration
 Anything suspicious here?
 * Longstanding AMD in 58 year old?
 History of cataract surgery OU
 Glasses Rx OD -1.00 OS -1.00

 Axial length 29.85 mm
 OD -18.00 OS -18.50 prior to cataract surgery

 Degenerative Myopia

 Differences from refractive myopia
 * There is an alteration of globe structure that is progressive
 * Primary alteration is a posterior elongation of eyeball as a result of progressive thinning of sclera
  □ Posterior staphyloma

 Degenerative Myopia

 Findings
 * Lacquer cracks
 * Posterior staphyloma
 * Fuch’s spot
 * RPE and choroidal atrophy
 * Scleral crescents
 * Vessel straightening
 * Disc tilting
 * Peripheral retinal changes

 Conditions Associated With Degenerative Myopia

 * Fetal Alcohol Syndrome
 * Ocular albinism
 * Down’s Syndrome
 * Low birth weight
 * Infantile glaucoma
 * Retinopathy of Prematurity
 * Marfan’s Syndrome
Treatment

- BVA with glasses/contact lenses
- Education regarding trauma and possible eye hazards
- Monitor for neovascularization and peripheral retinal changes
- Follow-up at least yearly

Which patient is at higher risk of retinal detachment?

Two patients are in your office
-8.00 D refractive myope
-14.00 D degenerative myope

Clinical Pearl

- Refractive myopia
  - Peripheral retina concerns

- Degenerative/myopia
  - Posterior pole concerns

Peripheral Fundus Findings

- Pavingstone Degeneration
- Pigmented Holes
- Lattice Degeneration
- Posterior staphyloma

Case 11
88 year old man
I see faces of friends that I have not seen for years, wheels of cars and at times pine trees

BVA
Count fingers at 2 feet OU

Current Correction
R: plano
L: -1.00 sphere

EOMS: full, unrestricted
PERRL (-)APD
CT: ortho D/N by Hirschberg
CF: central defect OU

Recommend psyche consult?

- Alert and Oriented x 3
  - Person
    - Knows who he is, who is with him
  - Place
    - Knows where he is, knows where he lives
  - Time
    - Knows what month, day, date and year

Diagnosis and Treatment?

Charles Bonnet Syndrome
“Release Hallucination”

- Visual hallucinations
  - Irritative (brief)
    - Epilepsy
    - Migraine
  - Release (continuous)
    - Stroke
    - Sensory deprivation

Treatment

- Reassurance
  - That this is normal for patient with severe vision loss to experience hallucinations

Clinical Pearl
Is there a difference between Geographic Atrophy and Disciform Scar
**Case 12**

A 48 year old man presented with OU red, gritty, sandy and dry feeling. His vision was 20/20, and his corneal thickness was 20.

**Current Correction**
- R: -2.00 sphere
- L: -3.00 sphere

**Examination:**
- EOMS: full, unrestricted
- PERRL (-) APD
- CT: ortho D/N
- CF: full by FC OU

**Diagnosis:** Rosacea

**What findings support your diagnosis?**
- Telangiectasias
- Erythema of the cheeks, forehead and nose
- Rhinophyma
  - Indicates chronic

**Let us get a closer look**

**A Closer Look**

**Rosacea Blepharitis**
(Inflammatory Blepharitis, MGD)

**Diagnosis?**
- In my opinion, most under treated condition
- Warm compresses
- Lid hygiene
- Artificial tears
- Omega 3 fatty acid, flaxseed oil
- Dermatological consult (Acne Rosacea)
- Oral antibiotics...??
  - Which one and why??

**Treatment?**
- Warm compresses
- Lid hygiene
- Artificial tears
- Omega 3 fatty acid, flaxseed oil
- Dermatological consult (Acne Rosacea)
- Oral antibiotics...??
Minocycline / Doxycycline

- Drug of choice for marginal inflammatory blepharitis (posterior blepharitis)
- AB, anti-inflammatory and anti-collagenase
- Inhibits lipase enzyme
- No renal adjustment
- 50-100 mg qd-bid 2-12 weeks (pulse)
  - Lower maintenance dose
- 20 mg Periostat (Doxycycline)
  - Helpful in those with stomach or GI sensitivity
  - Excellent for those requiring long maintenance dose

Precautions With Oral Tetracycline Analogs

- Enhanced photosensitivity
- Avoid in children and pregnancy (Category D)
- Can enhance Coumadin
- Can enhance the action of digoxin
  - Long term use with increase risk of breast cancer?
  - 1 paper/study, not regarded as highly reliable study
  - Further investigation discredited the association
- Benign intracranial hypertension, reported cases
  - 17 cases from 1978-2002

Minocycline

- Less photosensitivity
- Less GI upset
- Less bacterial resistance

Minocycline for Ulcers?

- Are the anti-inflammatory benefits useful to help reduce the corneal degradation that occurs in sterile and infectious keratitis?

Successfully Treated

- Warm Compresses
- Lid Scrubs
- Artificial Tears, Systane
- Mino 100 mg PO 6 weeks, 50 mg 3 months, 20 mg maintenance (Doxyc)
- Steroids, Tobradex qid (5 weeks with taper)
  - Moderately red and thickened lid margin
  - Marginal infiltrates

My Paradigm for Minocycline / Doxycycline

- Status of MG
  - Minocycline / Doxycycline Paradigm
  - Maximum dosage for 2-12 weeks (pulse)
    - 100 mg BID, QD
  - Turbid
    - 50-100mg qd while turbid
    - 20 mg longer treatments
  - Periostat (Doxycycline)
  - Clear
    - 20 mg if maintenance dose needed
What is an Inspissated MG?

Inspissated Meibomian Gland

I Can’t Believe It’s Not Butter!®
Squeeze

Questions

Thank-You!

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