


COPE ID #  
**14214-AS**

## Ocular Potpourri

### Anterior and Posterior Segment Case Presentations to Help You Clinically

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Pennsylvania Optometric Association  
June 7, 2008  
3:00-5:00 PM



### 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

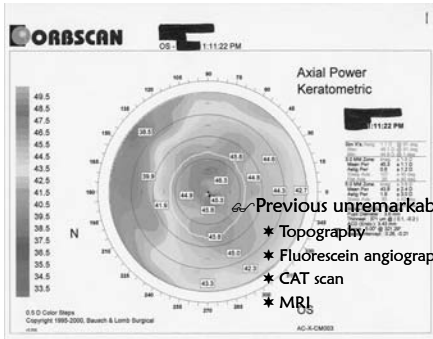
### 25 year old man

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

### "Ghost Image" OS

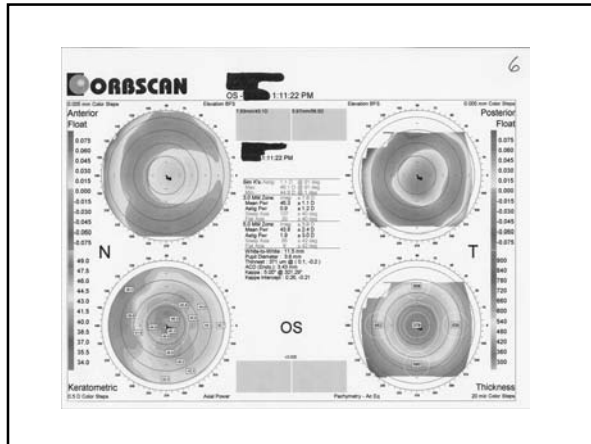
Va 20 / 20 cc / 20	Current Correction R -2.50-1.00 x 180 L -3.25-1.00 x 180
EOMS: full, unrestricted CT: ortho D/N	PERRL (-)APD CF: full by FC OU
I SLE-unremarkable I Fundus-unremarkable	I Previous unremarkable tests <ul style="list-style-type: none"> <li>* Topography</li> <li>* Fluorescein angiography</li> <li>* CAT scan</li> <li>* MRI</li> </ul>

### Any Thoughts About "Ghost Images"?



I Previous unremarkable tests

- \* Topography
- \* Fluorescein angiography
- \* CAT scan
- \* MRI

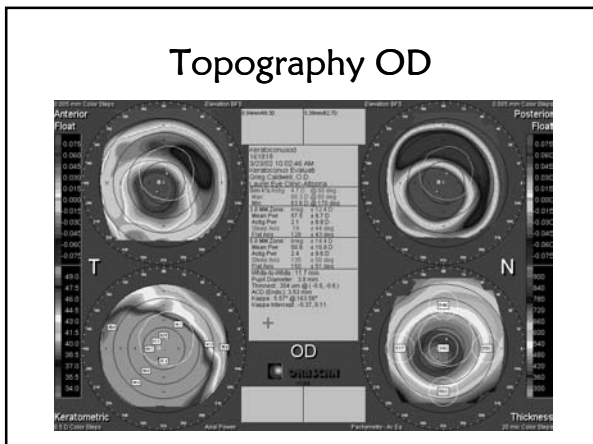
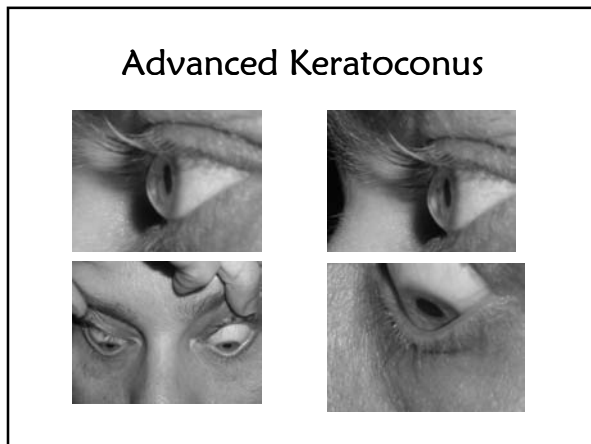


How I felt when I finally realized  
keratoconus starts posteriorly

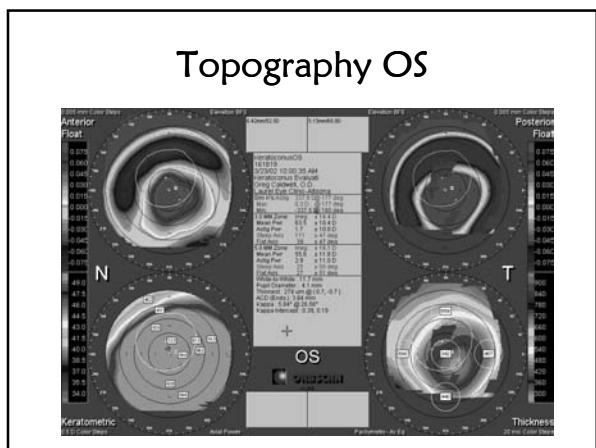
**Forme Fruste Keratoconus**

- ☞ 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

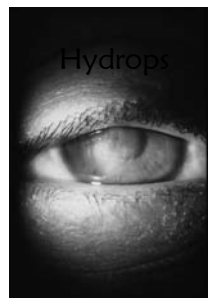
Case 2



### Topography OS

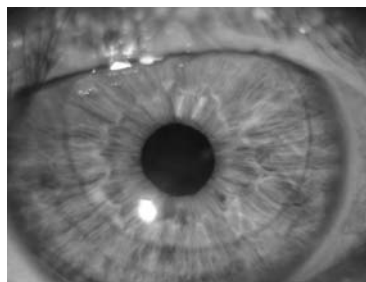


What happens when the posterior cone gets too steep and Descemet's membrane ruptures?



### Corneal Transplant

### Descemet's Stripping Endothelial Keratoplasty DSEK



### Case 3

### 28 year old man

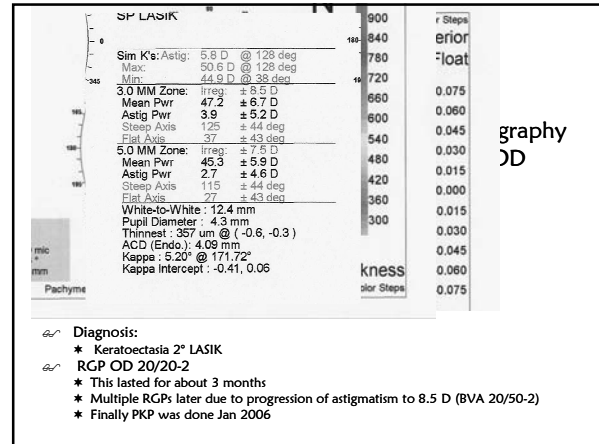
- ⌘ Had LASIK 14 months ago
- ⌘ His right eye is now very blurry
- ⌘ He tried calling for an appointment the center is now closed

Va 20 / 40  
cc 20

Current Correction  
R -6.50+7.00 x 130  
L -0.25 sphere

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

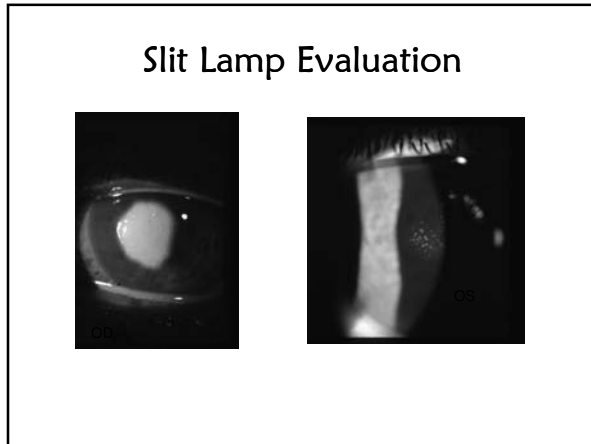
☞ SLE-trace fibrosis at flap edges, no stain  
☞ SLE-few multi-directional striae OD>OS  
☞ SLE-clean interface OU  
☞ Fundus-unremarkable



Case 4

43 year old man

☞ Called your office today  
☞ Eye pain in the right eye since this morning  
☞ OD 20/80 OS 20/20  
☞ Externals: normal  
☞ Review of Systems: unremarkable




43 year old male  
further history reveals

☞ Fourth time in past 24 months  
☞ Uses Muro 128  
\* Gtts qid  
\* Ung qHS

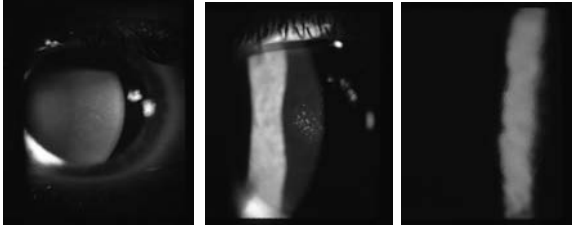
☞ Diagnosis:  
\* Recurrent Corneal Erosion secondary to Epithelial Basement Membrane Dystrophy (EBMD)

### Treatment

- ☞ Antibiotic, Vigamox tid
- ☞ Pain management
  - \* Depending on severity
    - ☐ Bandage contact lens
    - ☐ Oral ibuprofen (200 mg)
      - Maximum 3200 mg daily
    - ☐ Oral acetaminophen (500 mg)
      - Maximum 4000 mg daily
    - ☐ Oral narcotic (need DEA number)
      - Darvocet N-100 (650/100)
      - They provide good pain relief
      - A degree of sedation
      - Tend to minimally impact the digestive system and kidneys
      - It's not that they're dramatically more potent than OTC analgesics like aspirin, acetaminophen, ibuprofen or naproxen
  - ☐ Topical NSAID



### Review of Map-Dot-Fingerprint




### Treatment Options

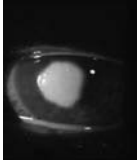
(Once Abrasion Resolved, to Help Prevent Recurrence)

- ☞ Medically
  - \* Hypertonic
    - ☐ Gtt's
    - ☐ Ung
  - \* Bandage contact lens
- ☞ Surgical/Procedures
  - \* Anterior stromal micropuncture
  - \* Debridement
    - ☐ Chemically
    - ☐ Mechanically
      - Beaver blade/diamond burr
  - \* Excimer phototherapeutic keratectomy (PTK)

When is it time for surgical procedure?

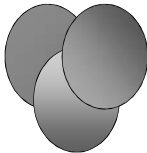


Answer: medical treatment failure



### Excimer Phototherapeutic Keratectomy (PTK)


- ☞ Corneal Opacities
  - \* Scarring
  - \* Granular dystrophy
- ☞ Surface Irregularity
  - \* Saltzman nodules
- ☞ Surface Breakdown
  - \* Epithelial basement membrane dystrophy

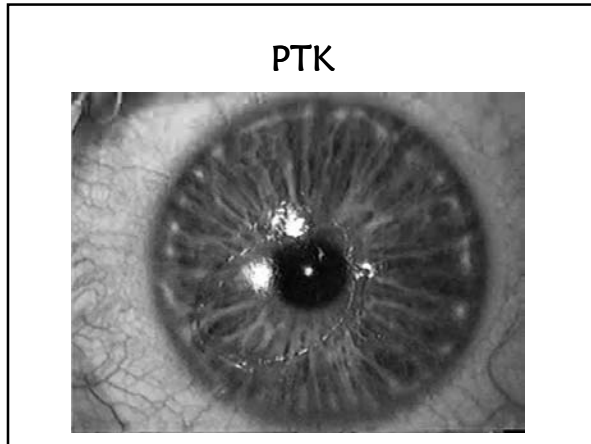


### PTK Procedure

- ☞ Removal of epithelium
- ☞ Manual debridement
- ☞ Polish with excimer

### PRK





**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



**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
  - ★ 3<sup>rd</sup> time in past 10 months
  - ★ Vigamox
    - ☐ Successfully resolves in 2-3 weeks

Why recurrent and slow to resolve?

### New Diagnosis?



- Recurrent bacterial conjunctivitis secondary to dacryocystitis
- Discussion
  - Treatment
    - Vigamox, tid
    - Oral antibiotic, which one?
      - Patient is allergic to Penicillin and Keflex



- Treatment
  - Vigamox gtts TID
  - Azithromycin (Zithromax)
    - Disp: 5 day z-pak
    - Use as directed PO
- Discussion
  - Dilation and Irrigation
    - Contraindication or indication?
    - This case dilation and irrigation...system open
  - If confirmed nasolacrimal 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?



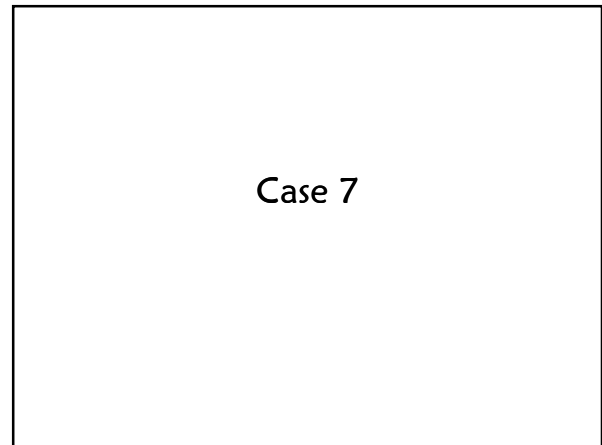
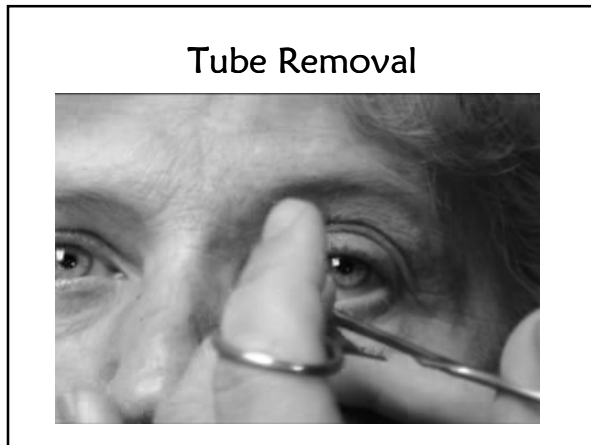
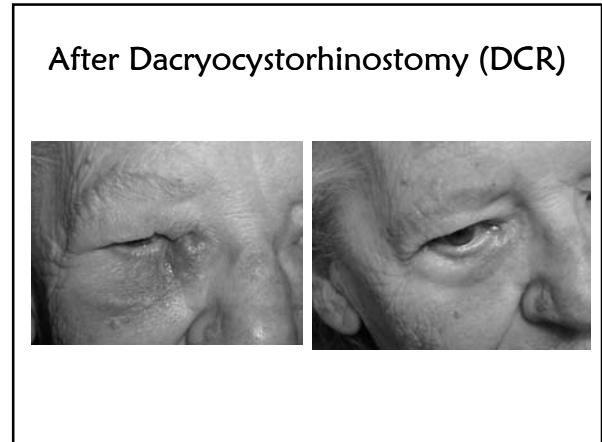
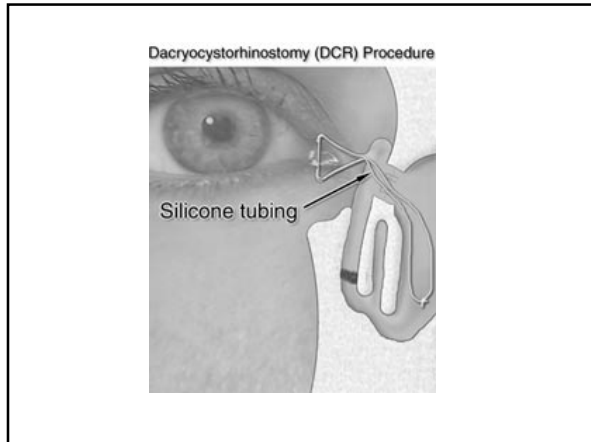
### 1 Week Later



Treatment Plan?

- Continue with topical and oral antibiotics
- Surgical consult for dacryocystorhinostomy (DCR)

Reminder 1 week ago

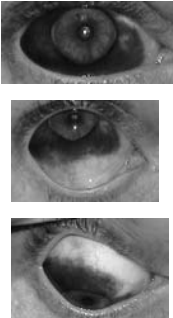


**35 year old man**

- 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

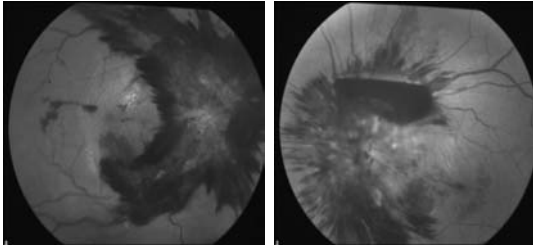
**35 year old man**

- 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



The three photographs show the patient's eyes. The top photograph shows the right eye (OD) with a large, dark, circular hemorrhage on the sclera. The middle photograph shows the left eye (OS) with a smaller hemorrhage. The bottom photograph shows the right eye (OD) with a large, dark, circular hemorrhage on the sclera.

### 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

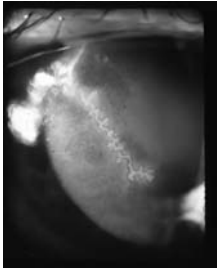
### 37 year old woman OD red and painful

Va 20 / 30  
cc / 20

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

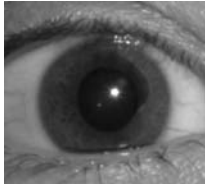
EOMS: full, unrestricted    PERRL (-)APD  
CT: ortho D/N                    CF: full by FC OU

### 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

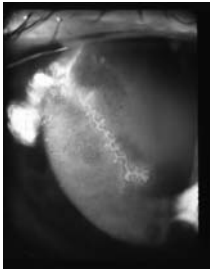
- Viroptic should be used for how long?
  - \* 21 days via package insert/instructions

### Slit Lamp Evaluation



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

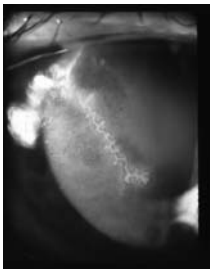
### 4 Months Later



- 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



☞ Treatment

- \*Viroptic
- \*Artificial tears
- \*Acyclovir
  - ☐ 800mg 5x's/day po
  - ☐ 400mg bid po

### Cranium Keeper

☞ Percentages in HSV keratitis

- \*25%
- \*43%
- \*41%

### Case 9

### 8 year old girl

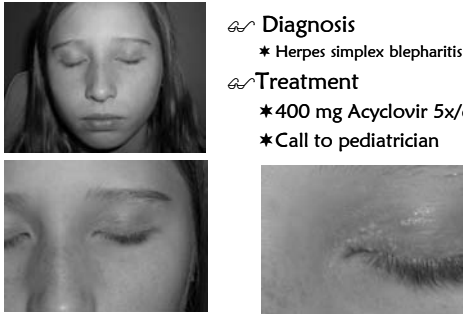
☞ Mom noticed the left eyelid has become red and has pimples

☞ Started two days ago

☞ Slowly getting more pimples on the eyelid

☞ Globe not affected

### Slit Lamp Evaluation



☞ Diagnosis

- \* Herpes simplex blepharitis

☞ Treatment

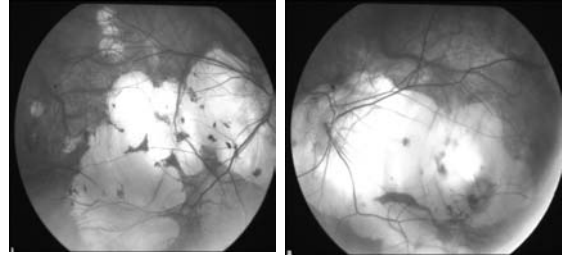
- \* 400 mg Acyclovir 5x/day
- \* Call to pediatrician

### Case 10

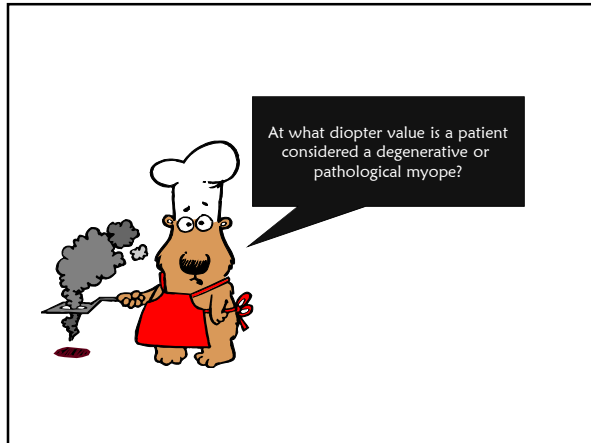
### 58 year old woman

- ⌘ 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

- ⌘ Differs 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
- } Can be found in refractive and degenerative myopes

### Conditions Associated With Degenerative Myopia

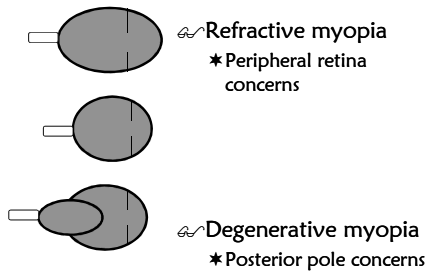
- ⌘ Fetal Alcohol Syndrome
- ⌘ Ocular albinism
- ⌘ Down's Syndrome
- ⌘ Low birth weight
- ⌘ Infantile glaucoma
- ⌘ Retinopathy of Prematurity
- ⌘ Marfan's Syndrome

### 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?

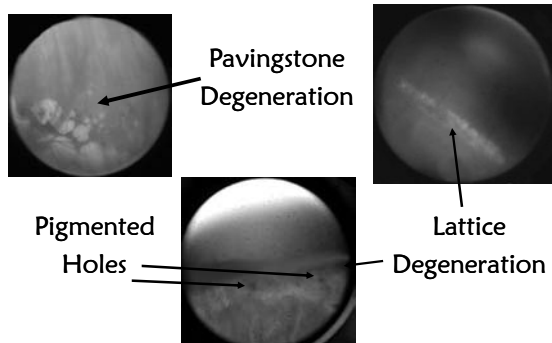
Two patients are in your office  
-8.00 D refractive myope  
-14.00 D degenerative myope



### Clinical Pearl

- ☞ Refractive myopia
  - \* Peripheral retina is general concern
- ☞ Degenerative/Pathological myopia
  - \* Posterior pole is general concern
    - ☐ Posterior staphyloma

### Peripheral Fundus Findings



### 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  
CT: ortho D/N by Hirschberg

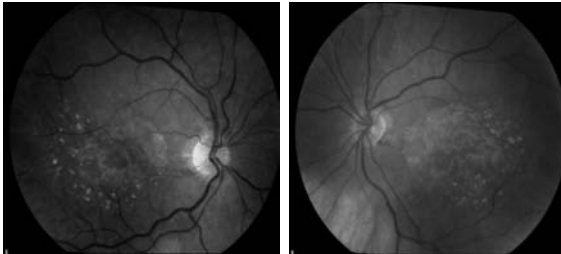
PERRL (-)APD  
CF: central defect OU

**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

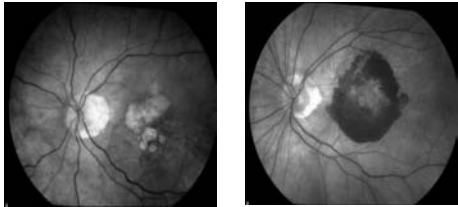
- ★ Irritative (brief)
  - ☐ Epilepsy
  - ☐ Migraine
- ★ Release (continuous)
  - ☐ Stroke
  - ☐ Sensory deprivation

**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

**48 year old man**  
**OU red, gritty, sandy and dry feeling**

Va 20 / 20 20 / 20 cc 20	Current Correction R -2.00 sphere L -3.00 sphere
--------------------------------	--

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



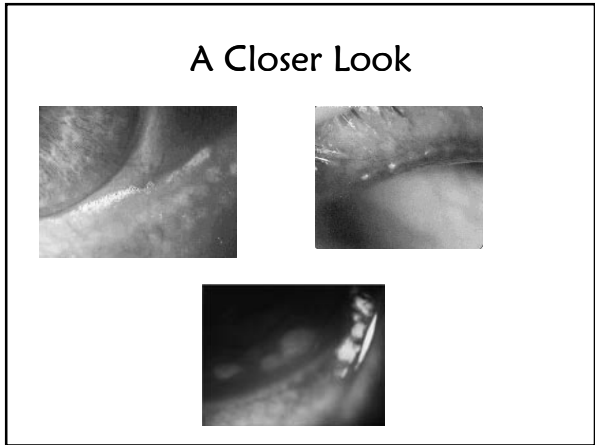
Diagnosis

- \* Rosacea

What findings support your diagnosis?

- \* Telangiectasias
- \* Erythema of the cheeks, forehead and nose
- \* Rhinophyma
  - Indicates chronic

Let us get a closer look



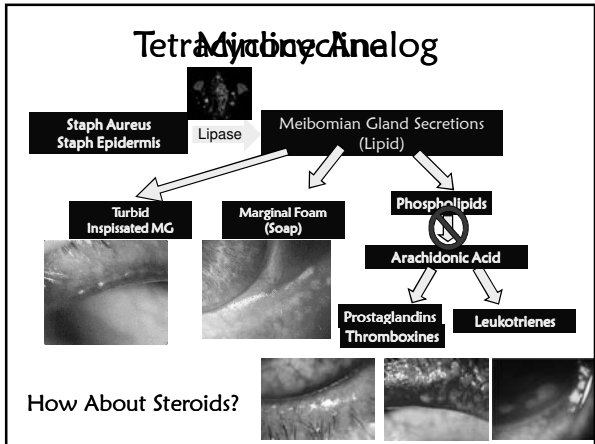
### Rosacea Blepharitis

(Inflammatory Blepharitis, MGD)

Diagnosis?

Treatment?

- \* 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??



### 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

### My Paradigm for Minocycline / Doxycycline

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>☞ Status of MG                     <ul style="list-style-type: none"> <li>* Inspissated</li> <li>* Turbid</li> <li>* Clear</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>☞ Minocycline / Doxycycline Paradigm                     <ul style="list-style-type: none"> <li>* Maximum dosage for 2-12 weeks (pulse)                             <ul style="list-style-type: none"> <li>☐ 100 mg BID, QD</li> </ul> </li> <li>* 50-100mg qd while turbid</li> <li>* 20 mg longer treatments                             <ul style="list-style-type: none"> <li>☐ Periostat (Doxycycline)</li> </ul> </li> <li>* 20 mg if maintenance dose needed</li> </ul> </li> </ul> |
|--|---|

### Precautions With Oral Tetracycline Analogs

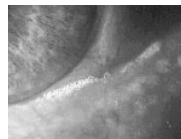
- ☞ Enhanced photosensitivity
- ☞ Avoid in children and pregnancy (Category D)
- ☞ Can enhance Coumadin
- ☞ Can enhance the action of digoxin
- ☞ ?Long term use with increase risk of breast cancer?
  - \* 1 paper/study, not regarded as highly reliable study
  - \* Further investigation discredited the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



### Minocycline

- ☞ Less photosensitivity
- ☞ Less GI upset
- ☞ Less bacterial resistance

### Successfully Treated



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

### Minocycline for Ulcers?

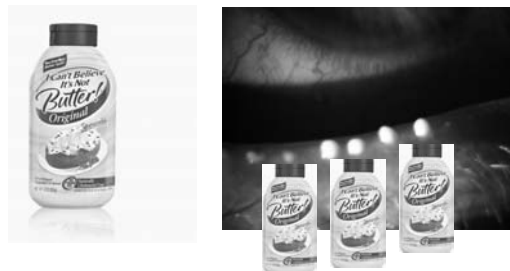
- ☞ Are the anti-inflammatory benefits useful to help reduce the corneal degradation that occurs in sterile and infectious keratitis?



## What is an Inspissated MG?

Inspissated Meibomian Gland

## I Can't Believe It's Not Butter!® Squeeze



## Questions

## Thank-You!

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