Interactive Anterior Segment
Grand Rounds 2011

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Mission Statement

• “To be the premier organization in providing quality Ocular Surface Disease (OSD) education and knowledge to all optometrists through professional education and scientific investigation.”

Objectives

• Provide optometric OSD education through a variety of media including but not limited to lectures, print and electronic articles both trade and peer review.
• To facilitate the dissemination of knowledge & research regarding OSD issues to all health-care providers.
• To develop and establish collaborative relationships with other related organizations.
• Partner with industry to promote OSD education
Membership Details

- To join you:
  - must possess an optometric degree from an accredited school or college of optometry
  - students, scientists, and other physicians with a particular interest in dry eye and/or ocular surface disease are also welcome to become special class members of the OSSO
  - must be reputable individuals in good standing within their profession and community
  - must complete an application form
- Membership is $54.00 per year

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Disclosures
William D. Townsend, OD, FAAO

- All views in this talk, including off-label use of medications are solely those of the presenter.
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- The presenter has received research support and/or speaking honoraria from:
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  - Allergan
  - Ciba Vision
  - Cooper Vision
  - Inspire
  - Odyssey Medical
  - Metro Optics
  - TearLab
  - Vistakon
  - VSP

Palo Duro Canyon, Texas
Why I like “House!”

INTERACTIVE

1. acting one upon or with the other.
2. of or pertaining to a two-way system of electronic communications, as by means of television or computer: *interactive communications between families using two-way cable television.*

The last place I delivered this lecture?
The last place I delivered this lecture?

1. Antarctica
2. Arkansas
3. Australia
4. Argentina
5. Richmond (Zoo)

A Garden Variety Case
A sixty-seven year old female presents with a history of having been struck in the right eye with the tip of a cactus while working in the garden.

The episode occurred four days prior to her visit. Since then, she has had persistent watering and foreign body sensation, but no mucopurulent discharge. She denies any blurring or loss of vision. Her general health history is unremarkable. As a child she suffered a blow to her right eye without any known permanent sequelae.
Your diagnosis of this condition is:

1. Epithelial basement membrane dystrophy
2. Recurrent corneal erosion
3. Penetrating corneal injury
4. Fuchs’ corneal dystrophy
5. Corneal abrasion
6. Townsend’s syndrome
Your diagnosis of this patient’s condition is:

1. Epithelial basement membrane dystrophy
2. Recurrent corneal erosion
3. Penetrating corneal injury
4. Fuch’s corneal dystrophy
5. Corneal abrasion
6. Townsend’s syndrome

Appropriate management of this case would include:

1. Referral to corneal specialist
2. Hypertonic saline drops and ointment
3. Bandage contact lens
4. Topical antibiotic drops
5. Topical beta blocker or CAI
6. All the above except 2

So what is it?
The most appropriate antibiotic for this patient is:

1. Polytrim drops
   - Resistant strains common
2. Ciloxan ointment
   - Drops penetrate better
3. Tobramycin drops
   - Resistant strains, toxic
4. Tobradex ointment
   - Resistant strains, no steroids until healed
5. Vigamox drops
   - Ideal for bandage CL, no BAK preservation

How I Would Manage This Case
- Bandage contact lens
- Topical Vigamox drops Q 4 hrs
- Topical beta blocker (do careful health Hx) or CAI
- Daily monitoring of patient
- Emphasize need to report redness, pain, or blurred vision immediately

Our #1 Fear in Penetrating Injury
- Endophthalmitis
  - In post cataract surgeries
  - Time of onset= 4 days
  - Most common symptom blurred vision (94%)
  - Strongly urge patients who are post op or with penetrating injuries to report blurring

How we would code it

- 92002- Office visit intermediate, new
- 92071- fitting & supply of bandage contact lens
- Subsequent visits- 92012 or 99013
- Final thoughts on this case

A Pediatric Puzzlement

A 6 year old female presents with painful swelling of her right eyelid. She was initially treated by an emergency room doctor with oral Cephalexin and cold compresses for three days.

After she failed to improve, the ER doctor gave her a one day course of Augmentin. It seemed to help, but then he put her back on Cephalexin and referred her to me.
A Pediatric Puzzlement

- VA: OD 20/20  OS 20/20
- Pupils: No RAPD
- SLE
  - OD lid edema, injection
  - Anterior segment clear
  - OS all findings normal
- EOMs: no limitation of gaze OU

Prioritizing Decision Making

- Life- dead people cannot see well
- Sight- blind people cannot see well
- Vision- we can only improve vision if patients are alive and can see
Your initial diagnosis of this patient’s condition is:

1. Allergic dermatitis
2. Internal hordeolum
3. Preseptal cellulitis
4. Orbital cellulitis
5. Viral keratitis
6. 2 or 3

Prioritize

Life – Sight - Vision

1. Orbital cellulitis
2. Preseptal cellulitis
3. Viral keratitis
4. Allergic dermatitis
5. Internal hordeolum

Any additional information you would like to have?

Differential Diagnosis Criteria

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<th>Pain</th>
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<th>Motility Affected</th>
<th>Vision Affected</th>
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<tr>
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<td>localized tender / pain</td>
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<td>diffuse pain</td>
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<td>diffuse</td>
<td>diffuse pain deep</td>
<td>yes</td>
<td>possibly</td>
<td>usually</td>
</tr>
</tbody>
</table>
A Pediatric Puzzlement

Pediatric Preseptal, Orbital Cellulitis

- Preseptal cellulitis more commonly associated with breaches in skin (trauma & insect bites)
- Orbital cellulitis strongly assoc w/ paranasal sinusitis
- Ethmoidal sinusitis reported in 84-100% of cases
- 1985 pediatric H. flu vaccine: cellulitis decreased

Gonzalez MO, Durairaj VD. Understanding pediatric bacterial preseptal and orbital cellulitis. Middle East Afr J Ophthalmol 2010;17:134-7

The most appropriate treatment for her condition is:

1. Tetracycline 250 mg PO QID
2. Cephalexin 250 mg/5 ml PO TID
3. Augmentin 200 mg/5 ml PO BID
4. Ciprofloxacin 100 mg PO QD
5. Ocuflox drops OD TID
Tetracycline PO
Do not Rx for kids under 13 years of age; tooth, bone, bacterostatic
Cephalexin PO
It did not work for this patient: probably a resistant strain
Ciprofloxacin PO
Not approved for children under 18 years of age- cartilage damage
Zymaxid drops
This is a systemic problem: drops are not adequate
Augmentin PO

The winner of my favorite systemic antibiotic is........

Irrational Drug Therapy
• Prescribe what the rep tells you to prescribe
• Go for the cheapest drug you can prescribe
• Give the broadest spectrum drug you know can
• Always use “formulary meds”
Rational Drug Therapy

- Drug action - Know how each class works
- Drug selection - Who & what is it for?
  - Who?
    - Age (very young & very old- extra care)
    - Sex (gender)
    - Pregnant, nursing females
    - Immune status
  - What?
    - Bacteria vs. fungus vs. virus
    - If bacterial gram positive vs. gram negative
    - Most lid infections are gram positive

Rational Drug Therapy

- Drug interactions & side effects- Know patient’s Meds Hx & Health Hx
- Assessment of effect - Know when to change therapy
  - Plan B - formulate ahead of time
- Develop a drug of choice (DOC) list for your practice
  - Primary and secondary DOC
  - Special considerations for pregnant females, children, and older patients

Rational Drug Therapy

- Know the twin A’s
  - Autonomies
  - Allergy
- Oral vs. topical medications
  - Topical meds
    - Reduced risk, limited site of action
    - Get to problem more quickly
    - Get out of system faster
  - Oral meds
    - When topical will not do the job
How to Calculate Oral Medicine Dosage for Kids & Adults

- Determine weight of patient
- Determine mg/Kg/day of med based on manufacture’s recommendation
- Determine dosing frequency (bid, qid)
- Determine amount of med to administer at each dosing

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<td>250.00</td>
<td>113.40</td>
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Example: Erythromycin ethylsuccinate (EES) for 60 lb. child

- Available in 200 or 400 mg/5 ml conc.
- Recommended dose 30-40 mg/kg/day
- 1 pound = 0.45 kg
- 60 lb. = 27.27 kg
- 27 Kg x 30 mg/kg/day = 810 mg
- Recommended dosing interval QID every 6 hours
- 810 mg / 4 doses = 202.5 mg
- Rx: 5 ml EES suspension PO q 6 hr
Example: Augmentin for a 120 lb. adult- cannot swallow pills

- Available as 200 or 400 mg/5 ml
- Recommended dosage 45 mg/kg/day q 12 hr
- 120 lb. = 54 kg
- 54 Kg x 45 mg/kg/day = 2,430 mg/day
- Dosing interval = BID
- 2,430 mg / 2 doses = 1,215 mg twice each day
- 1,215/400 = x/5  x = 3.03 ml
- Rx: 3 ml Augmentin 400 mg/5 ml suspension PO BID

Bacterial Resistance to Penicillins

- Alteration of target site
  - Methicillin-resistant species
    - Produce extra PBP & negate effect of antibiotic: resist all beta lactams
    - Very common in staph MRSA
    - Mutations: alter bacterial cell wall & prevent access of antibiotic to site of action
- Production of beta lactamases
  - Enzymes that catalyze beta lactam molecules (example: penicillinase)
  - Common in Staphylococcus species
  - Countered by inclusion of clavulanic acid

Why I love Augmentin

- Combination- amoxicillin + clavulanate
  - Clavulanate- “a sacrificial molecule”
- Effective against β-lactamase producers
- Effective against gram + bacteria
- Bactericidal & high therapeutic index
- Broad spectrum, widely used for skin and soft tissue infections
- Effective against H. influenza (kids)
- Available in generic form - most dosages
Augmentin: Dosing

- Adult: Tablets
  - 250 mg amoxicillin /125 mg tablets
  - 250 mg amoxicillin / 62.5 mg chewable tablets
  - 500 mg/125 mg tid
  - 875 mg bid
  - 1000 mg bid extended release
- Available in generic so less expense

Augmentin: Dosing

- Pediatric: (under 40 Kg) skin infection
  - 20 mg/Kg/day tid dosing
- Suspension available as
  - 125 mg or 250 mg/5 ml
  - Less diarrhea with bid dosing
- Pediatric (over 40 Kg)
  - 250 mg/62.5 mg chewable tablet tid

Good shot, Bad eye

What does your treatment plan include?
1. PTT, PT lab tests
2. Tropicamide 1% q 12 hours
3. Econopred 1% q 2 hours
4. Homatropine 5% q 12 hours
5. Modified bed rest w/ Fox shield OD
6. Absolute bed rest w/ patch OU
7. Shooting lessons
Read J, & Goldberg GF. “Comparison of medical treatment for traumatic hyphema”. Trans Am Acad Ophth and Oto 1974; Sept-Oct

- 137 patients studied: (Average duration of hyphema 5.7 days)
- Median age 15.9 years
- 79% males
- Angle recession in 86% of eyes
- Compared two treatment regimens:
  - Group 1: Absolute bed rest, patch OU, shield on affected eye, 30° head elevation
  - Group 2: Modified ambulation (not restricted to bed rest, shield on affected eye only, 45° head elevation)

Read J, and Goldberg GF. “Comparison of medical treatment for traumatic hyphema”

- RESULTS
  - Secondary hemorrhage slightly higher in Group 2 (not statistically significant)
  - Duration of hemorrhage no different
  - Visual outcome better in Group 2

Read J, & Goldberg G. Comparison of medical treatment for traumatic hyphema.

- Prognosis
  - Good in cases w/ less than 1/3 filling of A/C
  - Worse with secondary hemorrhage
  - Older patients have better outcomes
  - Blood staining of the cornea
    - Very rare in hyphemas of 50% or less
    - Usually in total hyphemas
    - Months or years to clear
Prioritize your concerns!

- Angle recession
- Secondary hemorrhage
- Glaucoma
- Blowout fracture
- Choroidal rupture
- Retinal detachment

Prioritize your concerns!

- Retinal detachment
- Secondary hemorrhage
- Blowout fracture
- Choroidal rupture
- Angle recession glaucoma

Secondary Hemorrhage

- Caused by lysis and retraction of clot
- Occurred in 25% of eyes
- 33% progress to total hyphema
- Usually occurs on day 3 or 4
- Approximately same rate - both groups
- More likely in:
  - Hyphemas > gr. 1
  - Children under 6 years of age
  - Blacks
- Reduces likelihood of good visual outcome

Read J. and Goldberg GF. Comparison of medical treatment for traumatic hyphema. Trans Am Acad Ophth and Oto 1974; Sept-Oct

- In 99 eyes (97 children) with traumatic hyphema;
  - Secondary hemorrhage occurred in 9 eyes (9%)
  - In African-American children with sickle cell trait, 64% of eyes had secondary hemorrhage
  - In Caucasian children and African-American children without sickle cell trait, there were no secondary hemorrhages.


- Double blind study to determine efficacy of oral ACA in preventing secondary hemorrhage
  - No other drops used
  - First group placebo
  - Second group treated w/ oral ACA

Aminocaproic Acid (Amacar)

- Analog of lysine
- Prevents lysis of clot by competitively inhibiting binding to lysine

\[
\text{plasminogen} \rightarrow \text{plasmin} \rightarrow \text{fibrin lysis}
\]

Aminocaproic acid inhibits here

• ACA group: 1 of 32 patients (3%) rebled (positive for sickle cell trait)
• Placebo group: 9 of 27 patients (33%) rebled
• Do not prescribe for pregnant females: teratogenic
• Side effects: nausea, infrequent vomiting


• Compared three groups of patients with traumatic hyphema
  • Group 1 treated with topical ACA
  • Group 2 treated with oral ACA (50 mg/Kg as effective as 10 mg/Kg
  • Group 3 treated with placebo
• Blacks more prone to secondary bleeds, optic nerve atrophy, glaucoma, require surgery

<table>
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<tr>
<th></th>
<th>Topical ACA</th>
<th>Oral ACA</th>
<th>Placebo</th>
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<tbody>
<tr>
<td>2nd hemorrhage</td>
<td>1 (3%)</td>
<td>1 (3%)</td>
<td>12 (22%)</td>
</tr>
<tr>
<td>End VA &gt;20/40</td>
<td>86%</td>
<td>69%</td>
<td>43%</td>
</tr>
<tr>
<td>Plasma level ACA</td>
<td>6 ug/ml</td>
<td>62 ug/ml</td>
<td>N/A</td>
</tr>
<tr>
<td>Optic atrophy</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>5 (9%)</td>
</tr>
<tr>
<td>Corneal blood stain</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>3 (6%)</td>
</tr>
<tr>
<td>Systemic SE</td>
<td>1 (3%)</td>
<td>5 (17%)</td>
<td>N/A</td>
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</table>
Angle Recession Glaucoma

- Angle recession glaucoma peaks at 2 years after trauma
- May occur up to 70 years after injury
- Educate the patient increased risk for glaucoma: reiterate at every exam
- Yearly or semi-annual IOP and DFE

Ken-Glaucoma Secondary to Angle Recession

What about the rim tissue?

Good shot, Bad eye

What does your treatment plan include?
1. PTT, PT lab tests
2. Tropicamide 1% q 12 hours
3. Econopred 1% q 2 hours
4. Homatropine 5% q 12 hours
5. Modified bed rest w/ Fox shield OD
6. Absolute bed rest w/ patch OU
7. Shooting lessons
A word about clotting tests

• Prothrombin time (PT)
  • Used to evaluate the adequacy of the extrinsic system and common pathway in the clotting mechanism
  • Provides a control for long-term anticoagulant therapy that usually involves the use of a coumarin derivative (e.g., Coumadin®).

• Partial Thromboplastin Time (PTT)
  • Evaluates the intrinsic coagulation system & to monitor heparin therapy
  • Aid in detecting classical hemophilia A, Christmas disease, clotting factor deficiencies
  • Sickle cell test: identifies normals vs. individuals w/ trait vs. disease

Management of Traumatic Hyphema

If < 50% Anterior Chamber depth
• Patch affected eye with Fox shield or equivalent
• Cycloplegia is now medical standard
  • Homatropine or atropine; no dilating agents
• Modified bed rest - no lifting
• Control IOP (applanation tensions bid)
  • NO miotics
  • Diamox 500 mg or Neptzane 100 mg PO
  • Apraclonidine or Alphagan bid
  • Beta blocker (do complete health Hx)
• Elevate head 45°
• Manage pain- no ASA or NSAIDS, use APAP
Management of Traumatic Hyphema

- In high risk cases (blacks, sickle cell patients, large ie. greater than 50% of angle
- Antifibrolytic- aminocaproic acid 50 mg/Kg
  - Consider having topical compounded
- Manage pain- Tylenol (No ASA or NSAIDS)
- Drug Hx- concentrate on drugs with anti-clotting, OTC : ASA, NSAIDS, dark greens
  - Lab
    - PT and PTT
    - Sickle cell in blacks

The One-eyed Wonder

A 71 year old male presents with pain and photophobia in his left eye. His right eye had been enucleated following trauma years earlier. He initially denied any history of trauma, but later stated he may have scratched his eye playing with his dogs. His hypertension was controlled by medications, and he denied any history of drug allergy.

The one-eyed wonder

- VA: OD N/A   OS 20/30
- SLE:
  - OD coated prosthesis
  - OS: 2 mm area of epithelial ulceration midway between limbus and central cornea.
  - Conjunctiva: gr. II+ injection
  - A/C: gr. I+ cells, flare
What is your initial plan

1. Start topical fluoroquinolone
2. Start topical fortified antibiotics; Cefazolin & Tobramycin
3. Perform corneal scraping and culture on agar plates
4. Shoot the dogs
5. 1 & 3
6. 2 & 3

The One-eyed Wonder

- Assessment: bacterial keratitis
- Plan:
  - Obtain cultures: blood and chocolate agar
  - Start Ciloxan per manufacturer’s recommendations
  - Admit to hospital: (patient was from out of town and had no place to stay)
  - RTC x 1 day
Day 2

Is there a trend here?

Day 1
The One-eyed Wonder

Day 2
• All findings stable to slightly worse
• Cultures show no growth after 24 hrs
• Patient wants to go home to take care of the dogs

Never lie to yourself about corneal conditions

OK, the guy only has one eye, and it’s getting worse fast...so what are you going to do?
1. Repeat scraping and culture
2. Consult lab
3. Increase dosage frequency
4. Be patient
5. Shoot the patient
6. Look under “help wanted” in the newspaper

The one-eyed wonder

• Day 3- it was worse, believe me
• Enlargement of ulcerated area, increased A/C activity
• Lab reports no growth
• A personal visit to the microbiology lab: culture showed a small colony on one of the plates
• Lab staff refers to it as “contamination”
• I refer to it as, “my last hope”
• Plan: re-streak “contaminants” on to additional Sabaradu’s agar plates
Your final shot at this case

1. Resistant bacterial strain
2. Atypical herpes simplex lesion
3. Fungal ulcer
4. Corneal melt
5. Dog-scratch fever

The one-eyed wonder
Day 4
- Ulcerated area increasing in size
- Lab reports growth of *Aspergillus* on Sabaraud's
- Plan: start patient on natamycin q 1 hour
Day 5
- Ulcerated area beginning to shrink
- Patient reports improvement in symptoms
- Reduce frequency of drops
Final Outcome
- Best corrected VA = 20/30: small scar OS

Final Outcome
Best corrected VA = 20/30

Compared relationship of fungal and bacterial keratitis with respect to:

- Trauma
- Contact lens wear
- Findings: in a five year period, 103 cases of infectious keratitis managed; cases definitely identifiable as fungal or bacterial included, all others excluded

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Wong TY et al

29 of 103 eyes met criteria for fungal keratitis

- Males/females = 3.8/1
- 27% had satellite lesions
- 21% had perforation
- 55% had Hx of trauma
- 7% wore contact lens
- 24% were using topical steroids

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Wong TY et al

51 of 103 eyes met criteria for bacterial keratitis

- Males/females = 1.8/1
- 0% had satellite lesions
- 4% had perforation
- 31% had Hx of trauma
- 31% wore contact lenses
- 31% were using topical steroids
Wong TY et al
Conclusions

- Trauma a significant risk factor for fungal keratitis
- Contact lens wear a significant risk factor for bacterial keratitis
- Use of steroids significantly increases risk for keratitis of either kind
- Satellite lesions highly suggestive of fungal keratitis
- Fungal keratitis: Perforation 5x more than bacterial keratitis

Townsend, W. “A question of culture”. Contact Lens Spectrum; April 1998

- Monocular individuals with infectious keratitis
- Large ulcerative lesions impinging on the visual axis
- Pediatric ulcerative keratitis, highly purulent keratitis, suspected Haemophilus conjunctivitis
- Chronic lesions that fail to respond in
- Bilateral corneal ulceration (almost exclusively in immuno-compromised patients)
- Suspected chlamydial infection (use DNA probe w/ PCR sensitivity and selectivity)
- Possible fungal or amoebic infection (biopsy needed?)

And my ear hurts too...

An 85 year old female with POAG presents with complaints of bilateral reduced vision, ocular discomfort, and injection. Her glaucoma has been well controlled with Combigan OU Q 12 hours for several years. Visual fields and GDX have remained stable for 5 years.
And my ear hurts too…

She insists that she takes her glaucoma medication faithfully every day and rarely forgets dosing. Over the past five years her applanation pressures were consistently in the 15-16 mm Hg range.

My ear hurts too…

- VA 20/40 OU
- SLE- dense SPK and gr II+ conjunctival injection OU
- TA OD 28 mm Hg OS 28 mm Hg
- A/C deep and quiet
- Lens: PC IOL w/trace caps haze OU

What other information do you want?

1. Gonioscopy
2. DFE
3. Evaluation opthalmic, systemic meds
4. Do more case history
5. Determine if she is taking the meds
Additional Hx
- No changes in Tx for HTN, arthritis
- Recently diagnosed w/ otitis media & treated with systemic antibiotic & ear drops
- Her ear still hurts

How to determine if a patient is taking their drops
- Water boarding
- Call pharmacy about refills
- Ask the family or spouse
- Have the patient come back next week & bring the drops with her

What we did........
- Told her keep taking her drops
- Add Systane PF Q 4 hours OU
- Bring all glaucoma drops with her in one week
One week later......

- One week later....
- Corneas about the same
- Pressures: OU 27 mm Hg
- Vision about the same
- My ear still hurts

Now we know why her ear hurts!


- (IOP) can occur with oral, IV, inhaled, topical, periocular, intravitreal corticosteroids
- Topical steroids for 4–6 weeks
  - 5% general population have IOP rise > than 16 mmHg
  - 30% have a rise of 6–15 mmHg
  - 30% glaucoma suspects IOP elevation > than 6 mmHg
  - 90% of POAG patients IOP elevation > than 6 mmHg
- Children receiving topical dexamethasone 0.1%
  - 71% dosing four times per day IOP rise > 21 mm Hg
  - 59% dosing two times per day IOP rise > 21 mm Hg
- Increased response in children < 6 years of age

Steroid Response: Mechanism

- Increases aqueous outflow resistance
- Steroids can induce physical & mechanical Δ’s in the microstructure of the TM
  - Increase deposition of “substances” in TM
- Substances- decreases outflow facility
  - Glycosaminoglycan
  - Elastin
  - Fibronectin
  - Myocilin
- Inhibit proteases & TM endothelial cell phagocytosis
  - Breakdown of substances in the trabecular meshwork.
Lessons Learned

- Have patients bring all their meds with them (your staff can take care of this)
- If not all, then at least all their eye drops
- Ask the patient to show you how he or she uses the medication
- Patients who are faithful in putting the wrong drops in their eyes are wasting their time and money
- Any form of steroid can cause IOP↑

He Said, She Said, He Said

A 64 year old male presents with four day history of foreign body sensation in his right eye. He has been treated by the PCP w/ gentamicin during that time period. He is a type 1 diabetic w/ good blood glucose levels

She Said, He Said, She Said

Day 1: SHE
- VA w/ correction: 20/20 OU
- SLE OD
  - Lid edema, corneal staining,
  - Lid eversion reveals concretions and small corneal fb
- Plan: remove concretions & fb with sterile forcep, Vigamox Q 12h
She Said, He Said, She Said

Day 2: HE
- Patient presents c/o increased pain and edema OD
- VA OD 20/30 OS 20/25
- Gr 3+ edema OD lid
- Cotton wisp = hypoesthesia OD
- Cornea: multiple lesions stain NaFl

What is your initial diagnosis

1. Toxic keratitis (gentamicin)
2. Herpes simplex keratitis
3. Adenoviral keratoconjunctivitis
4. Herpes zoster ophthalmicus
5. Acanthamoeba keratitis
She Said, He Said, She Said

What HE wrote on the chart
- HSK hypoesthia vs.
- EKC -PANA vs.
- TSPK monocular
  HIS plan: start Viroptic Q 2h & see patient tomorrow

She Said, He Said, She Said

Day 3: SHE
- Complain of increased edema & pain exacerbated by sun, wind,
- VA OD 20/50 OS 20/25
- SLE: increased # staining area, severe lid edema
What is your initial diagnosis

1. Toxic keratitis (gentamicin)
2. Herpes simplex keratitis
3. Adenoviral keratoconjunctivitis
4. Herpes zoster ophthalmicus
5. Acanthamoeba keratitis
6. Thygeson’s superficial punctate keratopathy

What is your treatment plan

1. Discontinue Viroptic
2. Oral Famvir 500 mg Q 8h x 7 days
3. Oral Valtrex 1g Q 8h x 7 days
4. Topical pred acetate Q 4 hours
5. Margarita Q 1h
6. All the above

Herpes Zoster Ophthalmicus

- Varicella-zoster virus (VZV) - a member of the Herpesviridae family
- Primary infection- chickenpox
- Secondary infection- shingles
- Ophthalmic division V nerve involved in 10-25% of all cases
Herpes zoster affects about 10-20% of the population
Twice as common in whites as in blacks
Incidence increases w/ age, peaks in 7th decade

Early Manifestation of HZo
Prodrome (ie, fever, malaise, headache, dysesthesia occurs 1-4 days before the development of the cutaneous lesions (rashes).  Once crusting of skin lesions clears patient is no longer infectious

Treating HZO - Time is Everything
72 hour rule
Oral antiviral drugs
Famciclovir 500 mg Q 8 hr
Valacyclovir 1 g Q 8 hr
Acyclovir 800 mg 5 times/d
Tricyclic antidepressants 25 mg
Nortriptyline
Amitriptyline
Desipramine
Complications of HZO

- Severe acute pain (90%) Infections
- Scarring rash (85%)
- Conjunctivitis, episcleritis, and scleritis (75%)
- Lid distortion (70%)
- Infectious and/or immune keratitis (55%)
- Uveitis (45%)
- Post herpetic neuralgia 20-60% (age <40-60 y)
- Glaucoma and/or cataract (10%)

Helpful Info for H. Zoster

- Apply cool compresses over the zoster lesions or take a cool bath twice a day
- Avoid exposure to warm or hot water because can exacerbating itching
- Cover shingles lesions with a clean cloth or loose-fitting gauze after cleansing
- Trim fingernails to reduce the chance of bacterial infection from scratching

Thank You

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