The SEVEN HABITS of Highly Effective Anterior Uveitis Management

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Case History

- 68 y.o. Caucasian female
- Complains of photophobia and blurred vision
- As well as a headache over right eye for 2 days
SLEx findings:
Diagnosis??
Herpes Zoster Ophthalmicus
Herpes Zoster

- Nearly 1 Million Americans develop herpes zoster each year
- HZ ophthalmicus accounts for up to 25% of presenting cases
- Over 50% incur ocular damage
Hutchinson’s Sign:

- Lesion on the tip of the nose
- Nasociliary branch of ophthalmic division of trigeminal nerve (V)
- Nasal means possibly ciliary (ocular) involvement
According to a study by Thean what was the most common complication associated with HZO?

• A. Iritis
• B. Optic neuritis
• C. Neurotrophic keratitis
• D. Scleritis
Ocular findings:

- Conjunctivitis/Scleritis
- Pseudodendrites
- Neurotrophic keratitis
- **Iritis**
- Glaucoma
- ION, vein or artery occlusion
- Nerve Palsy
Iridocyclitis and HZO

- Most common and most often overlooked ocular complication (43%)
- Highly elevated IOP
- Study by Thean, Hall & Stawall - *clinical Ophthalmology Dec 2001*
- 56% of patients developed glaucoma!!
Seven Rules of Highly Effective Iritis Management

1. Rule out keratouveitis
2. Check IOP
3. Rule out previous ocular surgery
4. Gauge severity – need for systemic work-up
5. Treat AGGRESSIVELY
6. Go beyond AC cell and flare (Restore the Blood-Aqueous Barrier)
7. Dilate and examine the posterior segment
Rule out keratouveitis
Check IOP

- Typically IOP will go down because of slowing of the ciliary body muscle
- Can it go up?
- Trabeculitis
- HZO case described earlier had an IOP of 56!
Rule out previous ocular surgery

- A significant iritis following a surgical procedure may be an endophthalmitis
- According to the ASCRS 2009 & 2010 surveys the average time of diagnosis of endophthalmitis after cataract surgery was:
  - 9.2 days!
Gauge Severity to determine if further testing is required
When would a systemic work-up be warranted?

- PS or PAS
- KP’s on endothelium
- Hypopyon
- Bilateral presentation
- Recurrent presentation

- In all cases?
- Over 50% of iritis cases are HLA-B27 positive
Six Initial Tests to Run:

1. CBC with Diff (also check lymph nodes)
2. SED rate
3. HLA-B27 antibody
4. ANA (antinuclear antibody)
5. FTA-ABS (fluorescent treponemal antibody absorption)
6. ACE (angiotensin converting enzyme)
HLA-B27 positive antibody:

- Indicates a systemic predisposition
- Diseases include but are not limited to:
  - Juvenile rheumatoid arthritis
    - (< age 16)
  - Rheumatoid arthritis
    - Check the patients hand
    - Ask about psoriasis i.e. psoriatic arthritis
  - Ankylosing spondylitis
    - Young men
    - Ask about lower back pain or stiffness
  - Reiter’s Disease
    - urethritis, tendonitis and polyarthritis
  - Crohns disease or ulcerative colitis
    - ask about diarrhea and GI problems
Treat aggressively

- Never start an iritis treatment QID
- Must be Q2H or Q1H even for grade 1
- Or consider stronger steroids: Durezol QID

- NEW: LOTEMAX UNG QHS
Lotemax ung attributes

- Established efficacy in post-operative inflammation and pain\(^1\)
- Low risk of significant intraocular pressure (IOP) elevation seen in clinical studies\(^2\)
  - \(<1\%\) of patients experiences intraocular pressure elevation \(\geq 10\) mm Hg
  - If product is used 10 days or longer IOP should be monitored
- Preservative-free\(^1\)
- As with other ophthalmic corticosteroids, LOTEMAX\(^\circledast\) ointment is contraindicated in most viral diseases of the cornea and conjunctiva including herpes simplex keratitis (dendritic keratitis), vaccinia, and varicella, and also in mycobacterial infection of the eye and fungal disease of the ocular structures\(^1\)
Difluprednate

- Developed by Mitsubishi as a dermatological preparation
  - Categorized as a “very strong” steroid in dermatology
- Developed by Senju as an ophthalmic emulsion
- Approval on June 23, 2008
Difluprednate Molecule

To increase penetration

To increase anti-inflammatory activity

To increase potency
Difluprednate Formulation

- Developed as an emulsion
  - No shaking required
- BAK-free
  - Uses sorbic acid as a preservative
- Available in 5 mL bottle
• Studied extensively in Japan for ophthalmic use
• In one preclinical pharmacokinetic study, the emulsion formulation was shown to have better ocular bioavailability than the suspension formulation¹
• In several preclinical studies, it was found to be
  ◦ Safe and well tolerated after repeated doses
  ◦ Effective at reducing inflammation in animal models of postoperative inflammation²,³

Masking Scheme

- Patients were each given two bottles: Bottle A and Bottle B
- Each patient received 8 drops every day
- In the Durezol group Bottle A contained Durezol and Bottle B contained vehicle
- In the Pred Forte group, Bottle A contained Pred Forte and Bottle B contained Pred Forte
*At Day 14, the non-inferiority hypothesis was met, demonstrating that Durezol QID was not inferior to Pred Forte dosed eight times a day with a Confidence Interval of 95%.
Percent of Subjects with Clearing of Anterior Chamber Cells
(Grade 0 defined as ≤1 cell)

- Durezol QID
- Pred Forte 8x/day

Day 3 | Day 7 | Day 14 | Day 21 | Day 28
--- | --- | --- | --- | ---
Low | Moderate | High | Very High | High
Mean Change from Baseline in Total Symptom Score*

The total symptom score was the sum of pain/ocular discomfort, photophobia, blurred vision, and lacrimation. Each symptom was graded using a visual analogue scale that ranged from 0-100. Patients were asked to assess these symptoms by using a mark on a 100 mm line where 0 = absent, 100 = maximal.
Percent Reduction in Mean Pain Score from Baseline

Mean Score at Baseline
Durezol=48.7
Pred Forte=44.5
Photophobia, Mean change from baseline

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<th>Day</th>
<th>Durezol 60.1</th>
<th>Pred Forte 50.9</th>
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<tr>
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Treatment: Iridocyclitis

- Pred Acetate 1% q1 or q2h
- Durezol (Difluprednate) 0.05% QID
- Lotemax Longer term or in Glaucoma patients
- Cycloplegia
  - Homatropine 5% bid
  - Cyclopentolate 1% bid
The Importance of Cycloplegia

1. Re-establish vascular permeability
2. Prevent synechiae
3. Pain Management
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Conclusions:

- Iritis is a common condition diagnosed by optometry
- Following the six rules will allow you to successfully manage these patients and keep you out of trouble
- Understand the importance of systemic disease in iritis and take appropriate measures to co-manage
- Keep advancing, iritis is a great area of ocular disease management
THANK YOU

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