ANTERIOR SEGMENT
OCULAR PHOTOGRAPHY
GRAND ROUNDS

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THANK YOU!

• TOA Board of Directors
• Dr. Kevin Gee, President
• Ms. Sherry Ballance
  – TOA Events Coordinator

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• The content and format of this course may reflect commercial bias and may claim or imply superiority of a particular commercial product or service.

DISCLOSURE

• Not affiliated with any colleges, universities, research centers or commercial photo companies
• Full time practicing OD
• Monday morning… I’ll be back at work… just like most of you
• Three practices
HEALTH CARE REFORM ACT 2010

Let me get this straight.....we're passing a health care plan written by a committee whose chairman says he doesn't understand it, passed by a Congress that hasn't read it but exempted themselves from it, to be signed by a president that also hasn't read it and who smokes, with funding administered by a treasury chief who didn't pay his taxes, all to be overseen by a surgeon general who is obese, and financed by a country that's broke.

What the heck could possibly go wrong????
**CPT 92285**

**External Photography**

- INCLUDES:
  - close-up photography
  - slit lamp photography
  - goniophotography
  - stereo-photography

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**PHOTOGRAPHY USES**

- Document/Monitor condition
- Patient Education & Retention
- Co-Management
- Telemedicine
- Profit Center?

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**MEDICAL NECESSITY?**

- Reason for diagnostic test?
- Directly stated or easily implied
- Will it affect diagnosis or treatment?
- **REQUIRES WRITTEN INTERPRETATION & REPORT!**

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**CPT 92285**

**Photo Requirements**

- The quality of the image should be of sufficient quality to be clinically relevant and graphically equivalent to a photograph.
- Images can be print, slide or digital.
- Polaroid film is no longer available.

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**What Can I Photograph?**

- Conjunctival problems
  - Pinguecula, pterygium, FB, pigmentation, pannus, burns, etc.
- Corneal problems
  - Ulcers, abrasions, neovascularization, keratitis, tear film, etc.
- Eyelid problems
  - Ectropion, entropion, sty, hordeolum, ptosis, neoplasms, tumors, etc.
- Eyelash problems
  - Triachiasis, maderosis, bacterial infection, neoplasms, lice, tumors, etc.
- Cataract problems
  - Central cataracts easier
- Glaucoma problems
  - Gonioscopic photography
- Pupil/Iris problems
  - Coloboma, iritis, pigmentation, neovascular, trauma, etc.
How to take QUALITY Anterior Segment Photos?

- Using DSLR equipment, kit lenses with supplemental lenses, dedicated macro lenses and proper lighting?
- Significantly Improved Depth of Field
- This is material covered in a separate CE course.

“Typical” 3-4mm DOF – near 1:1 Macro mag.
**GRAND ROUNDS**

- Course Format
  - Background information
  - Examine photograph
  - Diagnose abnormality
  - Consider treatment/plan options

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**Rx Treatment Sources**

- Ocular Therapeutic Handbook
- Handbook of Ocular Disease Management

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**CASE #1**

- 24 yo white female
- VA 20/20 correctable OU
- Cc: “I have a red spot on my right eye, and it has been there several weeks. I can feel it when I blink”.
- Problem slowly getting worse
Diagnosis?

- Large neovascular conjunctival cyst
- Treatment options?
  - Referred to OMD (Ophthalmologist)
  - OMD declined to surgically remove cyst
- Patient has never returned for further evaluation

Case #2
CORNEA
Foreign Body

OS “classic” metallic FB
Diagnosis & Management

- Corneal Foreign Body
  - ICD9 930.0
- Etiology – high speed grinder, no eyewear
- Seidel test – NaFl
- Check upper & lower lids for retained FB

Treatment

- 1gtt Parcaine 0.5%
- 28 gauge insulin needle to remove FB
- Did not require Alger brush (no rust)
- Tobramycin 1gtt qid x 7 days
- Bacitracin ung for night time x 7 days
- RTC in 24 hours – then 1 week

Clinical Pearls

- IF FB encroaches the visual axis
  - BEFORE proceeding, counsel patients as to the potential loss of acuity due to unavoidable scarring
  - DOCUMENT this conversation well for medical & legal reasons

Clinical Pearls

- What if you are unable to rule out the possibility of a penetrating ocular injury?
- Apply a SHIELD – NOT a PATCH
- DO NOT PRESSURE PATCH WHAT MAY BE A PENETRATING WOUND!!!
- Refer the patient immediately to a nearby hospital or ophthalmology practice (preferred)
CASE #3

• 18 yo white female
• VA 20/20 correctable OU
• Cc: “My left eye hurts BAD, waters, is sensitive to light with eyelashes matted early in the morning. The eyelid is puffy, and it is scaring me.”
• Onset: about 1 week ago, getting worse

Diagnosis?
Preseptal Cellulitis
Differentials
• Orbital cellulitis
• Proptosis, globe displacement, restricted ocular motility
• Necrotizing fascitis
• Chalazion / hordeolum


Preseptal vs Orbital Cellulitis

<table>
<thead>
<tr>
<th>Sign / Symptom</th>
<th>Preseptal</th>
<th>Orbital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lid edema (swelling)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Lid erythema (redness)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pain</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Hx trauma or infection</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Proptosis</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Reduced Vision</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Reduced motility/diplopia</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Fever</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Afferent pupillary defect</td>
<td>No</td>
<td>Possible</td>
</tr>
</tbody>
</table>

Preseptal Cellulitis

- **Etiology**
  - Adjacent infection / trauma

- **Organisms**
  - Staph. Aureus & streptococci most common
  - Haemophilus influenzae (unimmunized kids)
  - Anerobes – if bad odor discharge
  - Viral – if associated with skin rash


Preseptal Cellulitis - Rx

- **Antibiotic Therapy**: Broad-spectrum antibiotic

- **Possibilities**:
  - * Augmentin
    - Amoxicillin/clavulanate 500mg p.o., q8h, or
    - Children: 20-40mg/kg/day P.O. in 3 divided doses, OR
  - * Cefaclor (approx. 50% cost of Augmentin)
    - Adult 250-500mg. p.o. q8h, or
    - Children: 20-40mg/kg/day p.o. in 3 divided doses (max. 1g/day)


Preseptal Cellulitis

- If penicillin/cephalosporin sensitive:
  - Trimethoprim/sulfamethoxazole (Bactrim)
    - **Children**:
      - 8-12 mg/kg/day trimethoprim, with
      - 20-60 mg/kg/day sulfamethoxazole p.o. in 2 divided doses
    - **Adult**:
      - 160-320 mg trimethoprim, with
      - 800-1,600 mg sulfamethoxazole 1-2 double strength tablets, p.o. bid


Preseptal Cellulitis - Rx

- **Note**: oral antibiotics maintained 10 days!

- If case is severe or pediatric refer for possible hospitalization with IV treatment

- Warm Compresses

- IF secondary conjunctivitis present
  - Polysporin (Polymyxin B/bacitracin)

- IF sinusitis present
  - Nasal decongestants


Preseptal Cellulitis followup

- Daily until clear & consistent improvement
- Every 2-7 days until totally resolved


Preseptal Cellulitis Plan for this case

- Patient referred to Ophthalmology because:
  - Degree of patient’s immediate pain (moderate to severe)
  - Easy access to Ophthalmology care
  - Split-time practice with multiple offices
  - Unable to follow on a daily basis
Different Patient
Same condition – or is it?

• VA 20/25 OU
• Mild to moderate pain
• Mild light sensitivity
• Can feel hard “knot/lump” in eyelid

Treatment Plan

• Hot compresses 5-10 min. qid
• CLINICAL PEARL
  – Use a hard boiled egg as heat source, or
  – Boil small bag frozen corn or peas
  – Holds heat a reasonably long time
• Keflex 500mg po qid x 10 days
• Reminder – hordeola CAN turn into preseptal cellulitis.

One week later

BEFORE
CASE #4

- 68 yo white male
- VA 20/20 correctable OU
- Cc: “My upper eyelid began swelling. Now it has a knot or lump in it, and it is painful to touch and hurts when I blink.
- Onset: about 4 days ago, getting worse

Diagnosis?

- Hordeola / chalazion / meibomianitis
  - Externum (stye) 373.11
    - Sebaceous glands of cilia (Moll or Zeiss)
  - Internum
    - Chalazion – 373.2 meibomian gland
    - Hordeolum – 373.12 acute infection
      - external (Zeiss), or
      - internal (abcess of meibomian gland)
  - Usually involves Staphylococcus – occasionally evolves into preseptal cellulitis
Stye (Externum) - Treatment

- Diagnosis is made on a clinical basis.
- Warm compresses 15 minutes qid until resolution (reminder… hard boiled egg), and
- Bacitracin or Erythromycin ung bid x 1-2 weeks, and/or
- Dicloxacillin 250 mg q6h p.o. x 1-2 weeks, or
- Cephalexin 250-500 mg q6h p.o., x 1-2 weeks, or
- Augmentin 250 mg q8h p.o. x 1-2 weeks

Source: Ocular Therapeutics Manual

Hordeola (Internum) - Treatment

- Diagnosis is made on a clinical basis
- Tetracycline 250 mg qid p.o. x 3-4 weeks, or
- Doxycycline or minocycline 50-100 mg bid p.o. x 3-4 weeks
  - REMINDER: NOT appropriate for children under 8 or in cases involving pregnancy
  - Warn about UV exposure
- Decreasing the doxycycline or minocycline to once a day (QD) over a period of months may help to control the condition

Source: Ocular Therapeutics Manual

Hordeola (Internal) - Treatment

- After 3-4 weeks and not resolving…
- Consider injection of Triamcinolone 0.2 – 1.0mL
  - 40 mg/mL usually mixed 1:1 with 2% lidocaine with epinephrine
- If still not resolving…
- Consider referral for incision & curettage


Triamcinolone Warning

Wills Eye Manual 5th Edition

- “A steroid injection can lead to permanent depigmentation or atrophy of the skin at the injection site.”
- “The manufacturer of triamcinolone has recently recommended against its use intraocularly and in the periorbital region.”
- Vigorous injection can rarely result in retrograde intra-arterial injection with resultant central retinal artery occlusion.”
- “Use of triamcinolone injection for chalazion treatment must include a detailed discussion between physician and patient, as well as adequate documentation in the patient’s record.”
- Documented cases of CRAO going back 20+ years

Triamcinolone (TA) Uses

- Papillophlebitis & Cystoid Macular Edema
- Diabetic macular edema
- Macular edema from CRVO
- Florid proliferative diabetic retinopathy
- Complication:
  - Documented cases of CRAO going back 20+ years
Triamcinolone (TA) versus Incision & Curettage (I&C)

Goldschleger Eye Institute
Sheba Medical Center
Tel Hashomer, Israel

American Journal of Ophthalmology
Published January 2011

• Randomized, clinical trial
• 94 patients
• “Complete resolution” defined 95-100% regression
• Tx considered failure if no resolution after 1st attempted I&C or TA injection.

• Of 94 patients:
  – 42 underwent I&C
  – 52 underwent TA

• Complete resolution
  – 79% of I&C
  – 81% of TA
  – P=.8, chi-square analysis

Triamcinolone (TA) versus Incision & Curettage (I&C)

– TA - Average time to resolution
  – 5 days
  – 92% received single injection, 8% two injections
– TA - precipitates found in 11.5%
  – Resolved spontaneously
– No complications
  – i.e. no eyelid depigmentation, no increased IOP, no loss of visual acuity
Triamcinolone (TA) versus Incision & Curettage (I&C)

- **CONCLUSIONS**
  - Intraleisional TA injection is **AS EFFECTIVE** as I&C in primary chalazia.
  - Injection may be considered as an alternative **FIRST-LINE** treatment where diagnosis is straightforward and no biopsy is required.

Triamcinolone (TA) Addendum

- Another study indicated that TA worked well on chalazia <6mm in diameter but only about 50% as well on chalazia >6mm in diameter.
- **PEARL?** Consider referral for I&C on chalazia >6mm diameter?

More Examples

**Style / Hordeola / Chalazions**
CASE #5

- 16 yo Hispanic female
- Cc: **SEVERE** pain OD
- Admits to sleeping in CL for several DAYS after repeatedly being warned not to
- “Positive washcloth sign”
- Acute pain, photophobia, lacrimation, blepharospasm, foreign-body sensation, blurry vision and a history of contact lens abusive wear

**Diagnosis**

- Large corneal ULCER
- ICD9 370.03 corneal ulcer, central
- Corneal Disorder due to Contact Lens – 371.82

**Diagnosis / Treatment (cont.)**

- Raging endophthalmitis w/ total corneal ulcer!
- Immediate, URGENT referral to Ophthalmology
- General Ophthalmology referred to Texas Tech Medical School – Dept. of Ophthalmology
- Considered enucleation!
- IV antibiotics saved the eye
- Complete scarring of cornea resulted
- Corneal transplant is only hope of salvaging VA
AFTER 6 WEEKS

LEGAL CONSIDERATIONS

• DOCUMENT, DOCUMENT, DOCUMENT
  – What happened, when, how
  – CL instructions (recommended wearing schedule, replacement schedule, etc.)

• Know YOUR limits
  – ethically and medically

• Refer appropriately and timely, if needed

• If you get in over your head – hope you know your lawyer well.

CASE #6

• 58 yo white female
• Not particularly blurry vision
• Cc: Pain in scalp, forehead & around OS
• Onset: Gradual, getting worse, headache
• Never had anything hurt like this before
• Worried
**Diagnosis?**

- Herpes Zoster Dermatitis of Eyelid
  - ICD9 053.20
- Dendrite present on eye?
  - If Herpes Simplex – NO STEROIDS!!
- HZ causes up to 13% of facial palsies.
- Caucasian 400% more likely to have HZV

**Source:** Ocular Therapeutics Manual

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**IF it is HZO - Treatment**

- **ORAL** antiviral agents are **mandatory**
- Antiviral drugs for **at least 7 days**
  - Best if started within 48-72 hours of the rash
  1. Acyclovir 800 mg p.o. 5 times per day, or
  2. Famciclovir 500 mg p.o. tid, or
  3. Valacyclovir 1000 mg p.o. tid
- Reduce dosage in patients with renal insufficiency.

**Source:** Ocular Therapeutics Manual

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**HZO - Treatment**

- Erythromycin or bacitracin ointment bid for 1 - 2 weeks for prophylaxis
- Warm compresses
- Burrow’s solution 5% aluminum acetate tid-qid for skin lesions
- Skin lesions often heal within 4 weeks

**Source:** Ocular Therapeutics Manual

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**HZO - Treatment**

- **Note:** There is no role for **TOPICAL** antiviral drugs in the management of Herpes ZOSTER
- Topical Viroptic ( trifluridine) or Zirgan (ganciclovir gel) is appropriate for Herpes SIMPLEX

**Source:** Ocular Therapeutics Manual
CASE #7

• VA usually not affected
• Cc: Panicked - “Doc, I think my eye is bleeding”
• Onset: Sudden, may be getting worse
• Tried Visine, but it burned like fire

Diagnosis?

• Subconjunctival Hemorrhage (hyposphagma) ICD9 372.72
• Record Facts – when, where, what happened
• Record VA – with & w/o Rx (if applicable)
• Has it happened before?
**Sub-Conj. Hemorrhage Treatment**

- Usually non-emergency
- DON’T “trivialize” condition
- Express concern, palliative support, reassurance
- Usually no meds required
- Analgesics, ocular astringents, cool compresses, and lubricants may help

**Sub-Conj. Hemorrhage Treatment**

- Typically resolve in a few days
  - Ask if they are on blood thinners
- Advise NO use of Aspirin (or Naproxen Sodium)
- IF problem persists or frequently reoccurs refer appropriately for medical workup
- Use ocular antibiotics ONLY if bacterial conjunctivitis accompanies presentation

**Sub-Conj. Hemorrhage CAUTION – WARNING!**

- Subconjunctival hemorrhage is the **HALLMARK** sign of AHC — acute hemorrhagic conjunctivitis
- Cornea may show a fine punctuate epithelial keratitis with mild subepithelial infiltrate similar to an adenoviral infection
- EXTREMELY CONTAGIOUS
- 1-2 day incubation period
- Quarantine patient for 7-10 days
- Self-limiting viral disease

Source: Ocular Therapeutics Manual

**CASE #8**

- 69 yo white male
- VA variable - getting worse
- Cc: “My eyes feel really dry, hurt and my right eye gets very tired when blinking”.
- Onset: Gradual, but getting worse
- OTC lubricants give little relief

Source: Ocular Therapeutics Manual
Diagnosis?

- **Symblepharon** ICD9 372.63
- An attachment between the palpebral conjunctiva and bulbar conjunctiva
- Frequently associated with **OCULAR CICATRICIAL PEMPHIGOID** ICD9 694.61
- Ultimately ocular surface keratinization occurs secondary to severe dry eye syndrome

Source: Ocular Therapeutics Manual

OCP - Background

- Occurs at an incidence of 1:12,000 - 60,000
- Occurs twice as frequently in women
- Usually occurs in patients older than 55
- **25 to 30% of affected individuals ultimately become BLIND**

Source: Ocular Therapeutics Manual

OCP – Clinical signs

- **Stage 1** - Fibrosis of palpebral conjunctiva, conjunctivitis, keratitis
- **Stage 2** - Conjunctival shrinkage with fornix foreshortening

Source: Ocular Therapeutics Manual

OCP – Clinical signs

- **Stage 3** - Symblepharon, lagophthalmos, entropion, trichiasis, keratopathy
- **Stage 4** - Ankyloblepharon and severe dry eye syndrome
  - Other signs may include stenosis, distichiasis, blepharitis, keratitis, corneal perforation, and endophthalmitis

Source: Ocular Therapeutics Manual

OCP – Treatment

- Therapy for associated dry eye syndrome, keratitis, meibomianitis, blepharitis, trichiasis, and distichiasis
- Ocular lubricants, punctal occlusion, warm compresses, lid hygiene, systemic and/or ophthalmic antibiotics, and trichiasis/distichiasis epilation may help
- Refer to OMD, as needed

Source: Ocular Therapeutics Manual
SOME CATARACTS CAN BE PHOTODOCUMENTED

Nuclear Sclerotic Cataract through dilated pupil

Nuclear Sclerotic Cataract through undilated pupil

Nuclear Sclerotic Cataract w/SL - undilated pupil

STRETCH BREAK

“The mind can only retain what the seat can endure”!

CASE #9

- 57 yo male
- VA – mostly age related visual changes.
- Cc: “My eyes feel swollen and my eyelids feel tired. No pain. I can see a little bump on the side of my eye.”
- Onset: Gradually getting worse… over a period of years.
- Nothing seems to help.
Diagnosis?

- Herneated Orbital Fat
- ICD9 374.34 (fat pad)
- Differentiate between herneated orbital fat and dermolipomas
  - (limbal dermoids)

Subconjunctival Herneated (Prolapsed) Orbital Fat

- Usually occurs in ADULTS
- Due to acquired weakening of Tenon’s capsule by:
  - Aging
  - Trauma
  - Surgery

Subconjunctival Herneated (Prolapsed) Orbital Fat

- **CLINICAL SIGNS**
  - Yellow / pink, soft, mobile mass
  - Can be indented with cotton-tip applicator
  - Convex anterior border
  - Appears larger with pressure on globe
  - More common in males
  - Average onset age 65
Herneated Orbital Fat & Lipomas

• Are NOT choristomas
• Lipomas of orbital fat are primary tumors
• Excision is indicated and pathology evaluation is necessary – malignant?

Dermolipoma

• CLINICAL SIGNS
  • Soft, pinkish-white or pinkish-yellow
  • Non-mobile mass
  • May have fine hairs on surface
  • Cannot be indented with cotton-tip swab

Dermolipoma

• CLINICAL SIGNS
  • Does NOT change in size with pressure on globe
  • Anterior border generally straight or slightly concave.
  • Is a congenital lesion
  • Demonstrates no sexual preference
  • More common in younger ages

Subconjunctival Herneated (Prolapsed) Orbital Fat - removed

Dermolipoma

Limbal dermoid
Dermolipoma

- The Classic "limbal dermoid"
- Often cause functional problems
  - astigmatism, FB sensation and dellen
  - Amblophia possible
- Can leave significant corneal stromal scarring
- Clinical association with Goldenhar’s syndrome

Dermolipomas and lipodermoids

- ARE choristomas composed of both ectodermal and mesodermal elements
- The most common peribulbar tumors of childhood

PLAN

- Refer to OMD
- Monitor thereafter

CASE #10

- 26 yo white female
- Cc: “A few weeks ago I saw a white spot on my right eye that hadn’t been there before. It doesn’t hurt, but I’m concerned.”
- VA – 20/25+ corrected… wears soft contact lenses… denies overwearing
- Onset: Acute, now going on 3 weeks
- Hx: recently visited family in Arkansas
CASE (cont.)

- Admits being in places that didn’t seem sanitary (wash rooms, farm buildings)
- Not sure about contact with vegetative material to the eye
- Site only MILDLY stains with NaFl
- No pain, no discharge, no crusting or matting of lids or lashes

Diagnosis?

- Initial thought – "fungal keratitis"
- Remember 2006?
  - CDC Fusarium keratitis outbreak
  - 130 cases
    - 60% B&L Renu w/Moisturelock
  - What happened with the other 40%?
  - What about cases of no CL wear at all?

Diagnosis?

- Nearly impossible to differentiate bacterial keratitis from fungal keratitis on clinical judgment alone.
- History of vegetative injury NOT necessary to develop fungal keratitis!

Treatment?

- Natamycin (Pimaricin) 1gtt q2h during waking hours for 48 hours, then 1gtt 8 times a day for 5 days
- REMINDER: Natamycin is the ONLY FDA approved topical ophthalmic product for FUNGAL infections.
- All other antifungal medications must be adapted for ophthalmic use from systemic drugs = considerable ophthalmic toxicity.
Treatment Plan

- ADDITIONAL Rx of Zymar (Gatifloxacin 0.3%) 1gtt q2h during waking hours - not to exceed 8 times a day x 48 hours
  - then 1gtt qid x 5 days
  - RTC in 24 hours for follow-up
- Why? – in case it isn’t fungal but bacterial
- NO STERIODS…. why?
  - Will exacerbate (worsen) the disease

Source: Handbook of Ocular Disease Management

NEXT DAY (24 hours)

Treatment Plan – (cont.)

- No change… looks the SAME
- Add ORAL fungal med
  - Why?… because topical Natamycin is not particularly good at corneal penetration
- Added Ketoconazole 200mg PO bid x 30 days
  - systemic fungal medication
    - Avoid antacids for 2 hours after taking medication and avoid alcohol completely
- RTC in one week

One week follow-up

- No change… looks the SAME
- No NaFl staining of site
- Continue use of Natamycin until bottle is empty
- Continue Ketoconazole
  - Remind patient to avoid antacids for 2 hours after taking medication and avoid alcohol completely
- RTC in two weeks
One month follow-up

- No change… STILL looks the SAME
- VA still good at 20/25+
- No NaFl staining of site
- Continue use of Natamycin until bottle is empty
- Discontinue Ketoconazole
- RTC in one month

Two month follow-up

- No change… STILL looks the SAME
- VA remains 20/25+
- No NaFl staining of site
- Discontinue all meds and monitor
- Advised patient to call or report ANY change
- RTC in another month

Revised Diagnosis?

- Large sterile infiltrate – ICD9 code?
- No code exists for corneal infiltrate!
- To report this diagnosis, choose between one of the following two codes:
  – Corneal Opacity, Peripheral – 371.02
  – Corneal Opacity, Central – 371.03

Diagnosis & Plan

- Large sterile infiltrate – ICD9 371.03
- Patient says no new signs/symptoms have developed since last visit – no problems
- Requires no continued medication
- Dismiss patient
- Monitor annually or sooner if problem
What do fungal infections and ulcers look like on the cornea?

Let’s see some examples…
CASE #11
- 32 yo Hispanic female
- Cc: SEVERE PAIN OD after multiple attempts to remove soft contact lens
- “Positive washcloth sign”
- Acute pain, photophobia, lacrimation, blepharospasm, foreign-body sensation, blurry vision and a history of contact lens wear
- Thinks maybe she lost her right SCL
- Wants to know if CL is still in eye
- Rx +6.00 SPH OU
- VA OD 20/400- OS 20/25
Diagnosis?

- Large corneal abrasion (self-inflicted)
- ICD9 918.1 corneal abrasion

MEDICAL TREATMENT

1. Adequate cycloplegia
2. Topical antibiotic (your choice)
3. Pain Management
4. Monitor

Treatment Plan

- Cycloplegic (preferably long lasting)
  - 1gtt q2h to qid initially; tid or bid later
  - (manage ciliary spasm pain)
- Zymar (gatifloxacin 0.3%) – 1gtt qid x 7 days
  - or any 4th generation fluoroquinolone
- Reminder – DO NOT TAPER 4th generation fluoroquinolones

PAIN MANAGEMENT

- OTC – acetaminophen 400mg, up to qid
- OTC – ibuprofen 400mg, up to qid
  - Note: combination of these two OTC has analgesic effect similar to Tylenol III w/codeine but w/o drowsy effect!
    - (Source: Jill Autry, OD, RPH)
- If severe pain, topical NSAID
  - (such as Voltaren or Acular)
- Consider thin, low water bandage SCL

MEDICAL TREATMENT

- Pressure patch no longer standard of care
- Study of 18 patched, 17 non-patched
  - No significant difference in results
- AVOID pressure patching most CL prob.
  - Threat of microbial keratitis
  - Bacteria loves warm, dark, moist places

PRESSURE PATCH USES

- Conjunctival lacerations
- NON-penetrating corneal lacerations w/o wound gap
- ALKALINE chemical corneal burn
- Others?

Source: Ocular Therapeutics Handbook
CASE #12

- Almost any age, predominately female
- Cc: I have to clean my CL frequently, and very soon they are “dirty” again
- Usually deny overwearing, but purchase records frequently contradict that claim
- Often admit to having “oily” skin
- VA variable

Diagnosis?

- Protein / lipid deposits on CL surface
- Primarily front surface soft CL
- Both surfaces, RGP and PMMA
Treatment Plan

• Good hygiene
• Change solutions?
• Lens cleaners?
• More frequent change of lenses?
• Change type of lens?
• Don’t forget to evaluate blink pattern!

“False or Incomplete” blink

• Common problem with RGP/PMMA
• Washes debris to upper/lower 1/3 of lens
• More common in high-water hydrogels
• Silicone hydrogels tend to accumulate protein the least, but accumulate lipids more

Other deposit causes

• Tear film potassium deficiency
• High fat diets
• High alcohol consumption

Treatment Plan

• Remind patient to blink completely
• Rub and rinse CL
• Completely change soaking solution daily
  – No “topping off” of case
• Use alcohol-based cleaner
  – (dissolves lipids)
• Change lenses more frequently?
• Change lens type?
CASE #13

- 16 yo white female
- Cc: OD intermittent ocular irritation
- No Hx of ocular injury or allergy
- VA – normal 20/20 OU corrected
- Wants to know IF she can wear CL

Diagnosis

- HAIR growing out of a large temporal Dermoid Conjunctival Cyst (ICD9 224.3)
- Hair is LONG and moves with blink
- After more questioning discovered this patient also had a tooth grow in the roof of her mouth!

Treatment

- Option 1 – epilate hair (it WILL grow back)
- Option 2 – refer for electrical current or radio wave treatment of hair root

- Chose option #2, referred to local OMD
- Denied patient’s request for CL

AFTER 6 MONTHS
Treatment (cont.)
• OMD epiated and did NOT kill hair root!
• The hair DID grow back and has been removed again
• Recommend patient see different doctor and have hair root killed
• Due to size/location of dermoid cyst & hair regrowth still NO CL for this patient

Treatment (Update)
• Saw different OMD and had hair follicle killed by electrolysis
• Still wants soft CL
• After careful consultation and warnings, patient was successfully fitted with SCL.
• BTW (by the way)... Rx? -0.75 SPH OU!
• Lesson? Never underestimate a patient’s desire to wear CL! (or dislike of glasses)

CASE #14
• 33 yo Hispanic female
• Cc: “my left upper eyelid looks strange”
• No Hx of ocular injury
• VA – normal 20/20 OU corrected
Diagnosis

- Vitiligo - Eyelid hypopigmentation
  ICD9  374.53
- Associated with:
  - Graves’ Disease
  - Granulomatous uveitis
  - Sympathetic ophthalmia
  - V-H-K syndrome (Vogt-Koyanagi-Harada)
- No treatment necessary
- Rule out associations listed above

CASE #15 – skin lesions

- A variety of eyelid and facial lesions
  - Warts
  - Tag warts
  - Neoplasms
Basal, Squamous or Melanoma? – refer!

**Skin Lesions - Treatment**
- Most of these lesions are benign
- Be watchful for possible cancerous conditions (not only around eyes but on face/ears/neck)
  - Rough surface texture
  - Darkened irregular perimeter
  - Bleeding
  - Scaling
  - Recurrence of formerly treated area
- Refer appropriately and timely

**CASE #16**
- Older patients – male or female
- “Doc, can anything be done about the large bags under my eyes?”
- What are the “large bags” called in dermatology?
- Answer: **FESTOONS**
- Let’s look at some before/after photos
Be a “HERO”

• Watch for opportunities to help your patients beyond “vision care”.
• Become a good referral source for Dermatology and Oculoplastic Surgery.
  – Especially: Ptosis, Blepharochalasis, Festoons, Warts, Tag Warts, Neoplasms

UNUSUAL CASE #17

• 65 yo white male
• Cc: “routine exam, maybe dist. blurry”
• Hx of ocular injury w/o loss of VA
• Denies ocular allergies
• VA – 20/20 OU corrected

Scattered gray debris trapped in iris strands

Scattered gray debris trapped in iris strands

Scattered gray debris trapped in iris strands

Gray debris trapped in corneal stroma
Same case other eye, humm.. What's that blue spot?

Same case, blue spot up close.

Diagnosis?

- Blue spot trapped in lower eyelid?
  - shotgun pellet
- Gray spots trapped in iris & corneal stroma?
  - gunpowder!
- Has been there MANY years w/o discomfort or complication
- No treatment required
- Photodocument and note in patient’s chart

THANK YOU FOR YOUR KIND ATTENTION!

and… have fun with the crossword puzzle over this material.

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