Course #

154

Top Ten Pathology Pitfalls
Top Ten Pathology Pitfalls

Jill Autry, OD, RPh

- Dilate patients.
  - Don't let patient "wants" dictate appropriate care.
- Look at both eyes; not just the one the patient is complaining about.
  - The normal eye often gives clues to aid you in your diagnosis.
- The other eye may have similar or unrelated pathology.
- Use demographic data to guide you to a diagnosis.
  - Age, gender, race, risk factors

NOT THINKING BIG PICTURE

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52 yo female wants monovision CL
- BVA 20/20; CL fit and ordered; Patient deferred dilation—"will do next time"
- 6 months later patient decided on Lasik evaluation for monovision Lasik
- Felt CL wasn’t giving her as good distance VA as it once did—wants Lasik

Case example

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50 yo Hispanic male
- Flashes and floaters OS with retinal hole
- VA 20/20 OU

Case example

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59 yo black female
- Referred for increased floaters OD
- BVA 20/20 OD 20/100 OS
- Patient has diabetes and hypertension

Case example

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69 yo white female
- Referred for cataract eval
  - 1-2 NS OU
- BVA 20/30 OD 20/70 OS

Case example
• 79 yo white female
  • “I can’t see anything out of my left eye”
  • VA 20/25 OD  20/400 OS

Case example

• 66 yo white male
  • Unilateral optic nerve swelling
  • VA 20/30 OD, 20/200 OS
  • + APD OS, decreased color OS
  • Referred for optic neuritis OS

Case example

What was the cause of the abrasion?
If known cause then:
  • Cycloplegic
  • Bandage CL or patch
  • Antibiotic cover
  • Pain meds prn
  • Consider “comfort drops”
  • See in a few days

JUST ANOTHER CORNEAL ABRASION?

What was the cause of the abrasion?
Beware of:
  • “I "musta" got something in my eye....
  • Especially concerning with contact lens wearers
  • Treat the abrasion aggressively with antibiotic
  • No patching
  • No bandage CL
  • No pain meds
  • See the next day

JUST ANOTHER CORNEAL ABRASION?

• 27 year old contact lens patient
  • Presents with foreign body sensation, tearing, photophobia x 1 day
  • No history of trauma
  • “Musta” got something in his eye
  • No pertinent systemic history
  • NKDA

Case Example

Who gets angle closure glaucoma?
  • Hyperopes
  • Older patients
  • Phakic with increasing lens size/cataract
  • Someone WITH A CLOSED ANGLE!!!

HIGH IOP? ANGLE CLOSURE, RIGHT?
• IOP in 40-60mmHg range
• Cornea cloudy; may have microcystic edema
• Pupil often mid-dilated with little reaction to light
• Conjunctival hyperemia
• Patient often with pain, nausea, vomiting, and/or headache
• Perception of halos around lights

CHARACTERISTICS

• Can’t do gonio because:
  • Cornea is edematous
  • Eye is painful
  • What to do?

HIGH IOP?
ANGLE CLOSURE, RIGHT?

• DO GONIO ON THE OTHER EYE!!!!

HIGH IOP?
ANGLE CLOSURE, RIGHT?

• Exfoliative material from lens
• Abrasive action causes pigment release
• Exfoliative material and pigment decrease trabecular meshwork flow
• Unilateral or bilateral
• Zonular fibers are weakened making lens dislocation possible, especially during cataract surgery
• Iris also dilates poorly

PSEUODOEXFOLIATIVE GLAUCOMA

• Caucasian patients
• See exfoliative grayish-white, flaky material on anterior lens surface
• Material settles in a ring on peripheral edge of lens
• See pupillary transilluminating defects
• See loss of pupillary pigmented ruff
• Seen best with dilated lens examination

CHARACTERISTICS

• Aka Angle Recession Glaucoma
• Unilateral
• History of trauma in affected eye
• Blunt trauma with microhyphema/hyphema
• IOP may be elevated or decreased initially depending on a variety of factors
• Long-term risk of glaucoma is usually secondary to angle recession (may not present for 20 years)

TRAUMATIC GLAUCOMA
Inflammation can cause initial decrease in IOP
- Reduction in aqueous secretion
- Increase in uveoscleral outflow
- Over time, especially with recurrences, inflammatory material can obstruct the trabecular meshwork
- Trabeculitis can also increase IOP
- Increased IOP may be transient or may persist with permanent structural changes

**UVEITIC GLAUCOMAS**

Also known as Glaucomatocyclitic crisis
- Uveitic glaucoma
- Unilateral
- Young to middle-aged men
- Mild uveitis in association with very high IOP
- Often found on routine exam
- Often with exacerbations and remissions

**POSNER-SCHLOSSMAN**

- Uveitic glaucoma (chronic, low-grade)
- Generally asymptomatic
- Unilateral (90%), bilateral (10%)
- Characteristic triad
  - Heterochromia
  - Glaucoma
  - Cataract

**FUCH’S HETEROCHROMIC IRIDOCYCLITIS**

- Pain, photophobia, decreased vision
- Cell and flare, ciliary flush, injection
- Keratic precipitates on corneal endothelium
- Initial decrease in IOP
- IOP may rise with poor TM outflow
- Posterior and/or peripheral anterior synechiae
- IOP harder to control with synechiae formation

**IDIOPATHIC UVEITIS**

- Mild cell and flare, sometimes flare only
- Fine keratic precipitates (KP) on corneal endothelium
- No pain, eye is white
- Mild decrease in visual acuity
- IOP often 50-60 mmHg
- Patient often develops chronically elevated IOP requiring long-term treatment or surgery

**CHARACTERISTICS**

- Lighter iris color in involved eye
- Fine, stellate keratic precipitates on entire corneal endothelium (not just inferior)
- Posterior synechiae is not seen but may see peripheral anterior synechiae
- Frail angle vessels can cause spontaneous hyphema or surgically induced hyphema
- Pure neovascularization of iris and/or neovascular glaucoma rare

**CHARACTERISTICS**
Uveitis and initial high IOP
Simplex induced uveitis
  - May or may not see dendrite
  - May have other corneal irregularity
  - Ask if history of recurrent, unilateral red eye
Zoster induced uveitis
  - Characteristic lesions on one side of upper face

**HERPETIC UVEITIC GLAUCOMA**

Ocular ischemia causes neovascularization
Neovascularization of the anterior segment leads to increased IOP
Direct obstruction of the trabecular meshwork by a neovascular membrane
Seen more often with certain ischemic ocular conditions
  - CRVO
  - Proliferative diabetic retinopathy (PDR)
  - Ocular ischemic syndrome (OIS)

**NEOVASCULAR GLAUCOMA**

Iris neovascularization (NVI)
Angle neovascularization (NVA)
Spontaneous hyphema
History of poor visual acuity in affected eye for months to years
Older patients
Vasculopathic conditions

**CHARACTERISTICS**

Flacid, peripheral iris bows posteriorly
Believed to rub against lens zonules
Releases iris pigment
Decreases trabecular meshwork function
One-third of pigmentary dispersion patients will develop pigmentary glaucoma
Bilateral but IOP often asymmetric

**PIGMENTARY GLAUCOMA**

Demographics
  - Young
  - Male
  - Myopic
  - Caucasian
Mid-peripheral iris transilluminating defects (TID)
Krukenberg spindle (K spindle)
Heavy pigment in trabecular meshwork on gonioscopy
Acute IOP rise after exercising

**CHARACTERISTICS**

4. VISION IS DOWN BUT EXAM IS NORMAL...
- Use a systematic approach to look for hidden causes of decreased VA
  - Corneal
  - Lens
  - Retina
  - Optic nerve
  - Brain

  VISION IS DOWN BUT EXAM IS NORMAL...

- BEFORE dilation
  - Check for an APD
    - Use a BIO and not a penlight
    - Use the “down/up” way to evaluate

  VISION IS DOWN BUT EXAM IS NORMAL...

- Do a visual field.

- The "I GOTCHA" refraction
  - Especially with kids or worker’s comp cases
  - Start with 20/40 or 20/50 line
  - Dial in large amounts of plus and cyl
  - Do “calculations” in front of patient
  - Keep making large changes in Rx as you “refract”
  - Discuss in front of patient the amount of “power” you are using to make them “see”
  - Make lines smaller as patient is able to correctly give answers

  VISION IS DOWN BUT EXAM IS NORMAL...

- It’s NOT amblyopia without an amblyogenic factor
  - High refractive error
    - High hyperopia more common
    - High myopia less common
  - Anisometropia
  - Strabismus
    - History of patching
    - Four base out prism test

  VISION IS DOWN BUT EXAM IS NORMAL...

- 19 year old patient
  - Decreasing VA OS over 1 year
  - BVA 20/20 OD, 20/25 OS
  - Ocular exam WNL
    - Topo WNL, OCT WNL, No APD, What’s left?

  Case example
44 year old patient
- Decreasing VA OS over last year
- OD no complaints
- BVA OD -1.00 20/20, OS -3.00 20/50
- Question macular edema OS by the local OD
  - Reports VF WNL, topography WNL, OCT WNL
- Resident notes no foveal reflex OS

Case example

- Rarely start less than q2h
- Use only the “big dogs” for all non-dry eye inflammatory states
  - Pred Forte®
  - BRAND NAME ONLY—NO GENERIC!!!!
  - Durezol®

WIMPING OUT ON THE STEROIDS

- Wimping out on the dosage can prolong treatment of the disease
- Don’t undertreat with a steroid just b/c the pressure COULD go up
  - Treat any rise in IOP with glaucoma medication
  - Remember only 5% of the general population are steroid responders
  - 95% of glaucoma patients are steroid responders
  - Steroid response usually take 2 to 4 weeks with topical use

WIMPING OUT ON THE STEROIDS

Dry eye
- Ocular surface disease and intermittent blur/topo changes
- Premium IOLs and poor tear film
- Lasik and dry eye? consider PRK or no surgery at all
- Restasis, Azasite, Plugs, etc.

COMANAGEMENT PITFALLS

Pre-op cataract
- Take out of soft CL 2 weeks before referral
- Take out of RGP 3 weeks before referral
- Or until Ks are stable
- If cataracts are symmetric, VA should be symmetric
- Need to mention that new IOL options are available and will be discussed with surgeon
- Laser cataract surgery

CATARACT COMANAGEMENT

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NAME Joe Johnson
AGE ______________
ADDRESS_________________________________________________

Rx

Pred Forte® 1%, 10ml
1 gtt q2h OD-Shake Well

Brand Name Medically Necessary

REFILLS-- zero

Jill Autry, O.D.

3-3-14
Patient referred for cataract surgery
- 3+ NS OU
- BVA 20/200 OD, 20/70 OS

**Case example**

- Post-op cataract
  - Don’t tell a patient their lens is decentered
  - Don’t tell a patient their lens is scratched
  - Many patients don’t need perfection
  - Decreased vision and pain first week
    - Think endophthalmitis
  - Decreased vision 4-6 weeks post-op
    - Think CME
  - Decreased vision further post-op
    - Think PCO

**Cataract Comanagement**

- DLK doesn’t stain, SPK does
  - Follow Lasik Day 1, then Day 3 or 4
  - Watch IOP
  - Epithelial ingrowth
    - More common with enhancements
  - Microstriae vs. Macrostriae
  - Enhancement at 3 months if Rx stable

**Lasik Comanagement**

- PRK
  - Undersell/overdeliver
  - Don’t remove the bandage lens for 5 to 7 days
    - Use Muro soln before removal
  - Central epithelium will be last to close
    - Will often see healing line in the center
  - Don’t pull steroid too quick
    - Most surgeons want 3-4 month taper
  - Watch for haze; increase steroid if appears
  - Watch IOP!

**PRK Comanagement**

- Bacterial keratitis
- Bacterial conjunctivitis
  - But, guess what? It’s viral...
  - Or it will go away on its own
- Corneal abrasion
- Perioperative
- Blepharitis

**Topical Antibiotics Only in a Few Places...**

- Contact lens wearers
- Irregular epithelium
- Lots of pain
- No improvement with antibiotics/antivirals

**Misdiagnosing Acanthameoba**
Contact lens patient presents with irregular, disrupted epithelium
- Punctate erosions
- Pseudodendrite formation
- Small infiltrates
- Often mistaken for herpes simplex

Pain is disproportionate to clinical presentation
- Subepithelial infiltrates along radial corneal nerves
- Radial perineuritis

Delayed diagnosis is typical, avg. 6 weeks
- Ring infiltrate
  - Seen in only 6% of early cases
  - Seen in only 16% of late cases
- Hypopyon
- Progressive corneal thinning
- Risk of perforation

What caused the trauma?
- Is the anterior chamber deep?
- What is the IOP?
- What is the vision?
  - Dilate the patient to view the retina.

Start steroid q2h
- Homatropine 5% tid
- Refer for B-scan prn or if Seidel’s sign found
- Control IOP if elevated
  - Alphagan P, beta-blockers, CAIs
  - Avoid prostaglandins if possible
- Limit activities, keep HOB elevated, no ASA or IB products

Signs of previous trauma
- Poor pupillary constriction secondary to sphincter tear
- Iridodialysis
- Cyclodialysis
- Angle recession on gonioscopy
  - Compare with gonio of unaffected eye
- Increased IOP
- Weak or torn zonules
- Cataract
10. ALL HERPES IS THE SAME...NOT!!!

- Herpes
  - Both caused by herpes virus
  - Both unilateral conditions
  - If you see the same problem in both eyes it will not be herpetic
  - IOP may be high with simplex or zoster

ALL HERPES IS THE SAME...NOT!

- Simplex
  - Pinpoint areas of negative staining which can coalesce into dendrites
  - History of same sided eye infections in past
  - May or may not have history of cold sores/other herpetic lesions
  - May see old corneal scarring
  - May have high IOP

ALL HERPES IS THE SAME...NOT!

- Consider debridement
- Consider betadine wash
- Viroptic 9X day or
- Zirgan 5X day
- Or Orals

Treatment of epithelial simplex

- Treat stromal disease with Pred Forte® 1% or Durezol
- Cover steroid with Viroptic®/Zirgan® or oral antiviral
- Usually do steroid 2:1 ratio of topical antiviral

Treatment of stromal disease

- SIMPLEX TREATMENT
  - In place of Viroptic or Zirgan topically
    - Acyclovir 400mg 5x day x 10 days
    - Famvir® 250mg tid x 7 days
    - Valtrex® 500mg tid x 7 days
  - For prevention of recurrences or to cover steroid
    - Acyclovir 400mg qd-bid
    - Famvir® 250mg qd
    - Valtrex® 500 qd

ALL HERPES IS THE SAME...NOT!
Zoster

• Unilateral
• Older patient
• With same-sided, vesicular facial lesions
  • Lesions on tip of nose suggestive of impending or current ocular involvement
  • Conjunctivitis/iritis/corneal pseudodendrites
  • May appear before skin lesions

All herpes is the same

Zoster treatment

• Viroptic NOT used in Herpes zoster
• Make sure oral antivirals on board
• If severe keratitis or moderate to severe AC reaction
  • Start PF or Durezol q2h to qid
• If mild AC reaction/hyperemia only
  • Consider watching with cycloplegic only
  • Watch IOP!! Avoid prostaglandins

All herpes is the same

For Herpes Zoster (shingles) treatment
• Must start within 72 hrs for best effect; preferably within 24 hrs
• Acyclovir 800mg 5X day
• Famvir 500mg tid
• Valtrex 1 gram tid

Oral antivirals