

LMCC Review

Ophthalmology

EyeLid Redness

- Lids

- Hordeolum

- Infection of lid gland
 - local pain redness and swelling
 - no need to refer
 - tx: compresses, topical antibiotic, ?I & D

Eyelid Redness

- Chalazion
 - granulomatous inflammation of Meibomian gland
 - slow course - mths
 - compresses at onset; antibiotics no benefit
 - if non-resolving refer electively for transconjunctival curettage

Eyelid Redness

- Blepharitis
 - chronic infection with periodic flare-ups
 - staphylococcal or seborrheic
 - irritation, burning and itching
 - scales or crusting on lashes
 - Tx: lid hygiene & occas. Antibiotic ung.

Eye Redness

- Cellulitis

- Anterior

- same as cellulitis anywhere else - no orbital signs
 - no need to refer

- Posterior

- proptosis, restricted extraocular movements, pain
 - urgent referral for IV antibiotics
 - CT helps differentiate if confusion
 - Mucor in immunocompromised

Eye Redness

- Nasolacrimal Duct Obstruction
 - Dacryocystitis if infected
 - Swelling or abscess in lower inner canthus
 - Depending on severity may need hospitalization
 - Referral required
 - Initial Tx: IV or PO Antibiotics +/-external drainage; definitive tx: DCR to create internal fistula from lacrimal sac to nose

Eye Redness

- Laceration
 - usually requires referral
 - assume all lacerations medial to punctum involve lacrimal drainage system

Conjunctivitis

- Irritation, FB sensation, photophobia, diffuse redness, tearing

Conjunctivitis

Clinical finding	Viral	Bacterial	Allergic
Exudate	Profuse watery	Pus	Watery +/- mucoid
Scraping	Monos	PMN's	Eosinophil
Preauricular node	Yes	No	No

Ophthalmia Neonatorum

- Contamination of infant's eyes when passing through vagina and cervix
- Gonococcus: rapid blindness 2nd corneal ulceration onset 2-3 days after birth
- Chlamydia: less destructive, may last mths onset 5-12 days
- Prophylaxis: 1% silver nitrate or Emycin ung

Subconjunctival Hemorrhage

- Common
- No tx; reassurance
- No need to refer

Dry Eye

- Chronic redness
- Burning
- No need to refer
- Tx: artificial tear gtt, punctal occlusion

Keratitis

- Bacterial
 - Contact lens wearers
 - White infiltrate in cornea 1-2mm
 - Pain, variable reduced vision
 - Should be referred
 - Tx: topical flouoroquinolones

Keratitis

- Viral

- Herpes Simplex

- Recurrent dendrites, corneal edema, iritis
 - Refer Tx: Trifluridine, Acyclovir

- Herpes Zoster

- V1 Dermatome
 - Dendrites, iritis, other ocular inflammation
 - Tx: Oral Acyclovir; start and then refer

Pinguecula/Pterygium

- Pingueculum on conjunctiva only
- Pterygium invading cornea
- Chronic diseases
- Refer if symptomatic
- Tx: surgical excision – high recurrence rate

Episcleritis/Scleritis

- Associated with rheumatoid diseases
- Episcleritis common, localized inflammation last 2 wks tx with topical steroids or oral NSAIDs
- Scleritis rare, granulomatous or necrotizing
 - Vision threatening
 - Tx: immune suppression

Corneal Foreign Body

- If metal striking on metal is the mechanism of injury always get an X-Ray
 - Superficial: remove with Q-tip or needle tip, otherwise refer
 - Rust rings develop after initial removal

Iritis

- Inflammation in anterior chamber
- Pain, reduced vision, ciliary flush
- Systemic: Sarcoid, HLA B-27, inflammatory bowel disease, TB, syphilis
- Refer: Tx: topical steroids, dilating gtts
- 50% Recurrent

Acute Angle Closure Glaucoma

- Sudden severe pain, loss vision, N & V
- Red eye with ciliary flush, pupil fixed & mid dilated, cornea steamy, increased IOP
- Emergency referral
- Tx: Gtts to lower IOP, constrict pupil, diuretics, laser iridotomy

Eye injuries

- Chemical burns – irrigate immediately
 - NEVER give acid for alkali or vice versa
- For all but least severe trauma –refer
- Always protect the eye from further injury during transfer

Chronic Vision Loss

- All are painless
- Referral always necessary: elective unless a tumor is suspected

Lens Disorders

- Cataract

- Mostly age related – gradual loss of vision over mths to yrs affecting reading driving etc.
- traumatic or steroid-induced progress more rapidly
- Opacity in red reflex
- Tx: surgical removal & lens implant

Glaucoma

- Mostly primary open angle
- Painless progressive loss of peripheral vision; usually binocular
- Intraocular pressure is the only treatable risk factor
- Clinical findings: optic nerve cupping, possibly raised pressure

Glaucoma (cont'd)

- Care usually by an ophthalmologist
- Tx: Drops: beta-blockers, alpha agonists, carbonic anhydrase inhibitors, prostaglandins
- Laser: iridotomy for angle closure, to trabecular meshwork for open angle
- Surgery: trabeculectomy

Diabetic Retinopathy

- Proliferative
 - Ischemic retina secretes vascular growth factor
 - fragile new vessels rupture & bleeding may lead to scar and retinal damage/detachment
 - Tx: referral for pan retinal photocoagulation
- Non-proliferative or background
 - Leaking vessels cause edema & exudates
 - Tx: referral for laser if VA less than 20/40

Macular Degeneration

- Bilateral painless loss of photoreceptors
- Loss of central vision with intact peripheral
- 90% “dry” – drusen & atrophy; slow
 - Vitamins & reduced UV may slow progression
- 10% “wet” or exudative – fragile leaky vessels under macula; may have sudden loss
 - Potentially treatable with laser

Thyroid Orbitopathy

- Bilateral autoimmune swelling of extraocular muscles +/- orbital inflammation
- Findings: proptosis (exophthalmos), restricted EOM, inflammation, optic nerve compression, corneal exposure
- Tx: steroids/radiotherapy when active surgery when “burnt out”

Other Compressive Optic Neuropathies

- Lesions before chiasm produce defect in visual field of only that eye with afferent pupillary defect (APD)
- Chiasm lesions (pituitary adenoma) cause bitemporal hemianopsia and no APD
- Optic tract lesions cause homonymous hemianopsia with no APD

Acute Vision Loss

- Vitreous Hemorrhage
 - Traumatic: blunt or penetrating
 - Non-traumatic: spontaneous rupture neovascularization (DM, CRVO)
 - Painless unilateral loss of vision with dark shadow filling part or all of red reflex
 - Referral to retina specialist who will wait mths for blood to clear & then operate if it doesn't plus tx underlying disease

Acute Macular Lesion

- Unilateral painless loss of central vision
- Mostly macular degeneration; rarely other localized swelling or inflammation
- Urgent referral but rarely tx possible

Retinal detachment

- Painless unilateral loss of peripheral vision that over time extends to involve central & ultimately entire field
- Mostly spontaneous, sometimes after trauma; fluid thru hole lifts retina off
- Higher risk in high myopes
- Tx: scleral buckle, vitrectomy +/- intraocular gas

Retinal Artery Occlusion

- Thrombotic or embolic
- Unilateral sudden complete loss vision
- Findings: “cherry red spot”, marked afferent pupillary defect, arteries attenuated, emboli may be seen
- Tx: attempts within 60 minutes to dislodge emboli upstream – success almost nil

Optic Neuritis

- Mostly unilateral sudden loss of vision & color vision with pain with EOM
- 50% go on to MS
- Findings: poor vision, poor color vision, afferent pupillary defect, optic nerve usually normal, visual field defect
- Tx: usually refer to neurologist, ?IV not oral steroids

Anterior Ischemic Optic Neuropathy

- Sudden unilateral profound loss of vision in elderly
- Nonarteritic: essentially a microvascular CVA of optic nerve -no tx & little recovery
- Arteritic: Giant Cell Arteritis
 - High risk affecting 2nd eye
 - Check ESR and if suspicious Temp. Art Biopsy