

Eye Conditions

COLETTE EHNOW, M.D.
DEPARTMENT OF OPHTHALMOLOGY

Outline

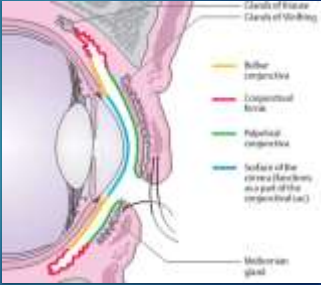
- ▶ Anatomy / vital signs of the eye
- ▶ Red eye
- ▶ Visual disturbances

Basic Anatomy




Anatomy of the Red Eye

- ▶ Eye redness is due to dilation of conjunctival vessels (conjunctival injection) or conjunctival hemorrhage
- ▶ Problems with other parts of the eye (cornea, anterior chamber, eyelids) can cause injection




Red Eye

- ▶ Conjunctivitis
- ▶ Keratitis
- ▶ Pterygium/pingueculum
- ▶ Inflammatory
- ▶ Eyelid related
- ▶ Hemorrhage



Red Eye

- ▶ Diagnosis ?




Viral Conjunctivitis

- ▶ Often accompanied by URI
- ▶ Usually starts in one eye but can spread to other eye
- ▶ Not usually painful or photophobic
- ▶ Cornea is clear
- ▶ Preauricular LN
- ▶ Red eye with clear discharge
- ▶ Treatment is supportive (topical antibiotic and artificial tears)
- ▶ Postviral dry eye syndrome



Red Eye

- ▶ Diagnosis ?




Bacterial Conjunctivitis

- ▶ Almost always unilateral in adults
- ▶ Not usually painful or photophobic
- ▶ Abundant purulent discharge
- ▶ Cornea is clear
- ▶ Treatment is a topical antibiotic, and resolves quickly



Red Eye

►Diagnosis ?



Allergic Conjunctivitis

- Almost always bilateral
- Hallmark is moderate to severe itching
- Not painful; mild photophobia in severe cases
- Usually history of other allergic symptoms
- Lid changes common




Allergic Conjunctivitis

- Treatment depends on severity
- Refer moderate to severe case to optometry
- Topical antihistamine/mast cell stabilizer (ketotifen)
- Topical nonsteroidal anti-inflammatory (ketorolac)
- Topical steroid



Red Eye

►Diagnosis ?




Corneal Ulcer

- Bacterial corneal ulcer
- Almost always in soft contact lens wearers
- Extended wear CL are high risk
- Pain and photophobia
- Refer to ophthalmologist
- Treatment: topical fortified antibiotics
- Can cause permanent vision loss



Red Eye


►Diagnosis ?



Herpes Simplex Dendritic Keratitis


- ▶ Unilateral
- ▶ Some discomfort and photophobia
- ▶ Can have recent history of cold sore
- ▶ Branch structure on fluorescein staining
- ▶ Refer to ophthalmologist

Treatment: topical antiviral (Viroptic or Zigan)




Herpes Simplex Dendritic Keratitis

- ▶ Tend to recur
- ▶ Long term prognosis depends on central scar formation



Red Eye

- ▶ Diagnosis ?



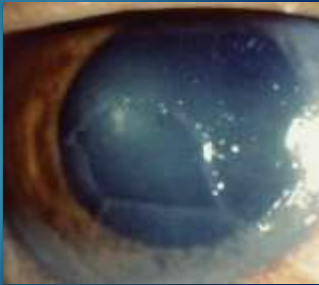
Corneal abrasion

- ▶ Recent history of trauma
- ▶ Usually severe pain and photophobia
- ▶ Treatment options: topical antibiotic ointment, pressure patch, bandage contact lens
- ▶ Usually heals quickly
- ▶ Can develop corneal erosion



Corneal Erosion

- ▶ Can happen weeks, months, or years after the initial corneal abrasion
- ▶ Usually requires bandage soft contact lens
- ▶ Refer to ophthalmologist
- ▶ Topical antibiotic and steroid




Red Eye

- ▶ Diagnosis ?




Pterygium

- ▶ Caused by lifetime exposure to sunlight (UV) and longstanding dry eye syndrome
- ▶ Usually takes years to grow
- ▶ Not painful
- ▶ Refer to ophthalmologist if patient complains of worsening vision and enlarging size
- ▶ Treatment depends on size




Pingueculum

- ▶ Precursor of pterygium
- ▶ Same cause (sun exposure and dry eye syndrome)
- ▶ Treatment: sunglasses and artificial tears.




Inflamed Pingueculum

- ▶ Can become inflamed and elevated=>refer to ophthalmologist
- ▶ Treatment: topical steroid



Red Eye

► Diagnosis ?




Episcleritis

- Unilateral
- Lateral quadrant most commonly affected
- Mildly painful and tender
- Refer to ophthalmologist
- Treatment: topical steroid and/or oral NSAID




Red Eye

► Diagnosis ?




Iritis or Iridocyclitis

- ▶ Unilateral or bilateral
- ▶ Red, painful, photophobic
- ▶ Can have history of autoimmune disease but work up is usually negative
- ▶ Refer to ophthalmologist urgently
- ▶ Treatment: topical steroid and cycloplegic



Red Eye

- ▶ Diagnosis ?



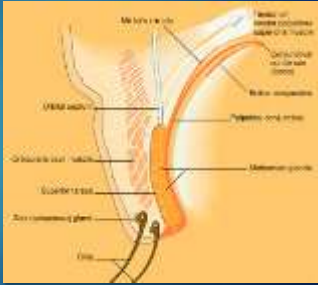
Hordeolum

- ▶ Can be multiple
- ▶ Acute inflammation after meibomian gland blockage
- ▶ Lid red, painful, and swollen
- ▶ Rarely becomes infected
- ▶ Treatment: depends on size and presentation (WC, I&C, steroid injection)



Lid Anatomy

- ▶ Oil collection can occur anterior to tarsal plate => external hordeolum
- ▶ Or posterior to tarsal plate => internal hordeolum



Hordeolum

- ▶ External hordeolum
- ▶ External to tarsal plate
- ▶ Eyelid is red but eye is not usually red



Hordeolum VS Chalazion

- ▶ Hordeolum - acute phase with acute inflammation (lasts 2 weeks)
- ▶ Chalazion - chronic phase with chronic inflammation
- ▶ Chalazion can convert back to hordeolum if more oil secretions accumulate




Hordeolum VS Chalazion

- ▶ Ideally, wait to surgically drain during chalazion phase
- ▶ Can only drain oil that is present
- ▶ Often recur because more oil secretions accumulate
- ▶ Steroid injection for small hordeolum and chalazion



Red Eye

- ▶ Diagnosis ?




Blepharitis

- ▶ Chronic blockage of Meibomian glands
- ▶ Lid margin redness, inflammation, dandruff-like flakes
- ▶ Treatment is warm compresses, lid hygiene. More severe case need topical antibiotic and oral doxycycline
- ▶ Chronic condition. Goal is control, not cure.



Red Eye

►Diagnosis ?



Herpes Zoster Ophthalmicus

- Shingles involving the V1 branch trigeminal nerve
- Eye is not usually involved
- Conjunctivitis, keratitis, iritis can occur




Herpes Zoster Ophthalmicus Pseudodendrite

- No treatment until recently
- Zigan (topical ganciclovir)
- Usually do not scar, but treatment can help with discomfort




Red Eye

►Diagnosis ?




Subconjunctival hemorrhage

- Usually spontaneous
- Can be trauma related
- Blood thinner usually increase hemorrhage size
- Do not stop anticoagulation therapy
- Large hemorrhages can become bullous
- Add topical antibiotic ointment when bullous



Red Eye

- Conjunctivitis: (-) pain, vision
- Keratitis: (+) pain, vision
- Pterygium/pingueculum: (-) pain (+/-) vision
- Inflammatory: (+) pain (+/-) vision
- Eyelid related: (+/-) pain (-) vision
- Hemorrhage: (-) pain, vision



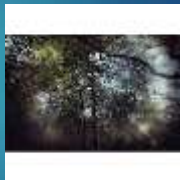
Visual Disturbances

- ▶ Flashes and floaters
- ▶ Migraine
- ▶ Amaurosis fugax

Flashes and Floaters



Migraine



AMAUROSIS FUGAX

DEFINITION:

Transient monocular blindness caused by temporary lack of blood flow either to the brain or retina.

- Occurs as a result of emboli from plaques in the carotid artery.
- These block an artery for a while and then move on resulting in a loss of vision for the duration of blockage.

Clinical Manifestation

- Sudden monocular vision loss
- Seconds to minutes, uncommonly hours
- Patient an entire visual field, "curtain coming down" or partial and obliterating / shadow
- One or multiple episodes
- Giant cell arteritis should be suspected
- Exposure to bright light (increased metabolic demand) can precipitate the episode
- Ocular pain alleviated by compression (ischemia of the ocular and retinal branches of the ophthalmic artery)