

Red eye

/several types of red eye /

Red eye - the most common cause of eye problems

- similar symptom associated with different complains
- pain or decreased vision

Etiology – trauma, chemical injuries, infection, allergy, systemic conditions

History – acute or chronic onset , previous episodes, eye pain, vision problems, presence of photophobia, unilateral, bilateral?

Physical exam – visual acuity, IOP, slid lamp exam and inspection of anterior segment, pupillary inspection

Non vision threatening disorders:

- Subconjunctival haemorrhage
- Chalasion
- Blepharitis
- Conjunctivitis
- Dry eye
- Episcleritis

Vision threatening disorders:

- Corneal erosions
- Corneal infections
- Hyphema
- Iritis and uveitis
- Acute angle closure glaucoma
- Orbital cellulitis

Symptoms:

- Itchy eye – allergy
- Burning – lid, conjunctival, corneal disorders
- Dryness or tearing – dry eye
- Localized tenderness- stye, chalasion

- Intensive pain – corneal abrasions or ulcer, iritis, acute glaucoma, scleritis
- photophobia – Iritis, acute glaucoma, corneal abrasions
- Halo vision – corneal edema

Red eye, no pain, normal VA (visual acuity): conjunctivitis, subconjunctival hemorrhage

Red eye, pain, normal VA: subtarsal foreign body, Episcleritis, Scleritis

Red eye, moderate pain, moderately decreased VA: corneal abrasion, keratoconjunctivitis

Red eye, severe pain, severe decreased VA: Acute glaucoma, Uveitis, keratitis, Scleritis

Subconjunctival Hemorrhage – causes: trauma, arterial hypertension, conjunctival teleangiectasia, excessive physical exertion, vomiting, idiopathic

Conjunctivitis – etiology – virus, bacteria, Allergy, Trauma, Dry eye

symptoms – tearing, burning, foreign body sensation, photophobia

Conjunctivitis discharge:

- white mucous – allergy
- purulent – bacteria
- clear – viruses, allergies, chemical

Viral conjunctivitis : usually adenoviral,

- watery discharge, tarsal follicles,
- highly contagious
- associated with respiratory infections

Keratoconjunctivitis:

- if its localised centrally can produce decreased visual acuity
- keratitis presents with subepithelial corneal infiltrates
- treatment - antibiotic eye drops , artificial tears, NSAID eye drops, steroid eye drops for subepithelial infiltrates

Allergic conjunctivitis treatment:

- associated conditions - hay fever, asthma, eczema- treat underlying disease.
- contact allergy- chemical- avoid exposure

- topical olopatadine / ketotifen for AAC
- topical steroids and immunosuppressive eyedrops for vernal and atopic keratoconjunctivitis

Vernal keratoconjunctivitis:

- photophobia, young child, chronic allergy in few case, risk of cornea damage, amblyopia /child/
- treatment –steroid eyedrops, immunosuppressive drops
 - Amniotic membrane graft for plaque ulcer

Tear film:

- functions: lubrication and antibacterial activity
- essential for maintaining a healthy cornea and conjunctiva
- dry eye is a tear deficiency state
- Tears have liquid, mucous and oil components

Tear deficiency associated conditions: aging, sex, Rheumatoid arthritis , Stevens-Johnson sy.

,ocular cicatricial pemphigoid

- systemic medications- antihistamines , high doses of ibuprofen, antidepressants

Traumatic keratitis:

- Foreign body sensation
- painful
- VA depend on the location of the keratitis

Anterior uveitis: signs and symptoms:

- circumcorneal redness, ciliary flush
- pain
- photophobia
- Decreased vision
- plegic pupil
- hypopyon, pupillary membranes and posterior synechiae

Anterior uveitis associations:

- trauma
 - systemic inflammation
 - dental abscesses
 - HLA B27
 - sarcoidosis
 - Reiters urethritis
 - inflammatory bowel disorders
- Therapy: mydriatic drops, steroid drops, systemic steroids

Episcleritis:

An inflammation of the subconjunctival and episcleral tissue is known as episcleritis.

There is lymphocytic infiltration of subconjunctival and episcleral tissue.

Etiology:

1. It is an allergic reaction to endogenous protein or toxin.
 2. It may be a collagen disease as history of rheumatoid arthritis is often associated.
 3. It can be associated with prior episodes of herpes zoster and gout.
- It occurs commonly in women, there is usually bilateral involvement, the peak age incidence is in the 4th decade.

Types: 1. Simple diffuse episcleritis

2. Nodular episcleritis.

Signs: 1. Circumscribed nodule-like lentil is situated 2-3 mm away from the limbus.

2. It is hard, immovable and tender.
3. The conjunctiva moves freely over the nodule.
4. The conjunctiva looks purple in colour as deep episcleral vessels traverse it.

Complications: Severe neuralgia may occur due to nerve involvement.,scleritis results from deeper infiltration of inflammation.,there may be associated uveitis.

Treatment: Corticosteroid eyedrops and ointment are applied, warm compresses are very soothing.

Anti-inflammatory and analgesics relieve pain and control inflammation.

Scleritis:

An inflammation of the deep scleral tissue is known as scleritis. It can occur as anterior (95%) and posterior (5%) scleritis.

Etiology:

In 50% cases, associated connective tissue diseases are present such as : • Rheumatoid arthritis • Polyarteritis nodosa • Systemic lupus erythematosus • Non-specific arteritis • Wegener's granulomatosis • Dermatomyositis • Polychondritis 2. It may be associated with prior episodes of herpes zoster and gout.

Women are commonly affected in 4th-5th decade.

Types: 1. Diffuse scleritis. 2. Nodular scleritis 3. Necrotizing scleritis.

Complications: Iritis, cyclitis, anterior choroiditis, annular scleritis, change in the cornea- stromal keratitis, deep keratitis, limbal guttering and keratolysis, secondary glaucoma, ciliary staphyloma, scleromalacia perforans, granuloma of the sclera.

Treatment: corticosteroids – local and systemic, cytotoxic immunosuppressive drugs or surgical

Treatment.

Contact lens overwear:

- produce corneal edema , pain, tearing
- corneal abrasion
- treatment : antibiotic drop, artificial tears, steroids, epithelial ointments

Orbital cellulitis:

- external redness, oedema, pain, eyelid swelling, conjunctival chemosis
- impaired painful motility,
- proptosis
- optic nerve affection- decreased VA, RAPD+, disc edema
- complications: cavernous sinus thrombosis, meningitis.

Acute angle closure glaucoma: see lecture glaucoma

This is a brief summary of red eye and its possible causes. It is necessary to have knowledge about all of them /see next lectures/