

INFECTIONS OF THE EYES



CONJUNCTIVITIS

Definition

- Conjunctivitis is an inflammation or infection of the transparent membrane (conjunctiva) that lines the eyelid and covers the white part of the eyeball.
- When small blood vessels in the conjunctiva become inflamed, they're more visible. This is what causes the white of the eyes to appear reddish or pink.
- Also known as “pink eye”

Risk factors

- Exposure to something for which the person have an allergy (allergic conjunctivitis)
- Exposure to someone infected with the viral or bacterial form of conjunctivitis
- Using contact lenses

Causes

- Viruses
- Bacteria
- Allergies
- A chemical splash in the eye
- A foreign object in the eye
- In newborns, a blocked tear duct

Pathophysiology

Microbes enter the eye on contact with infected objects



Inflammation of the eye



Dilation of blood vessels of eye



Swelling, redness, exudates and discharge

Symptoms

- Pain
- Redness in one or both eyes (hyperemia)
- Itchiness in one or both eyes
- A discharge in one or both eyes that forms a crust during the night that may prevent your eye or eyes from opening in the morning i.e. exudation
- Tearing
- Photophobia
- Drooping of upper eye lid
- Periorbital cellulitis
- Fever
- Sore throat
- Runny nose
- A gritty feeling in one or both eyes

Classification of Conjunctivitis

- Infectious →
 - Viral → Hyperacute
 - Bacterial → Acute
 - Chronic
- Noninfectious → Allergic, Toxins/
Chemicals, Foreign body, Trauma,
Neoplasm

Viral Conjunctivitis

- Most common viral cause is adenovirus (enterovirus, HSV)
- Occurs in community epidemics (schools, workplaces, physicians' offices)
- Usual modes of transmission: contaminated fingers, medical instruments, swimming pool water

Viral Conjunctivitis

- Presentation: unilateral or bilateral, acutely red eye, watery or mucoserous discharge, chemosis, **tender preauricular node**, burning/sanding/gritty feeling in eye(s), rarely photophobia
- May be part of viral prodrome: adenopathy, fever, pharyngitis, cough, rhinorrhea



Acute Bacterial Conjunctivitis

- Common causes in neonates: *Chlamydia trachomatis*, *Neisseria gonorrhoeae*
- In children: *Haemophilus influenzae* (80%), *Streptococcus pneumoniae* (20%), and *Moraxella catarrhalis*. Concurrent OM seen in 25%.
- In adults: *Staphylococcus aureus*

Acute Bacterial Conjunctivitis

- Presentation: Unilateral or bilateral, red eye, mucopurulent or purulent discharge **continuously** throughout the day, burning, irritation, mild chemosis
- Neonates: symptoms appear 5-14d after birth (inclusion conjunctivitis of the newborn)
- Highly contagious: spread by direct contact or by contaminated objects



Allergic Conjunctivitis

- Most commonly seasonal allergic rhinoconjunctivitis, also called hay fever rhinoconjunctivitis
- IgE mediated hypersensitivity reaction precipitated by small airborne allergens → local mast cell degranulation → release of chemical mediators (histamine, eosinophil chemotactic factors, PAF, etc.)
- Presentation: **bilateral, pruritis**, redness, watery discharge, rhinorrhea/congestion
- Patients often have h/o atopy, seasonal allergy or specific allergy



Treatment

- *Topical antibiotics- broad spectrum antibiotics*
- *Irrigation of conjunctival sac*
- *Dark goggles*
- *No steroids should be applied*
- *No bandage*
- *Anti-inflammatory and analgesic drugs*

Bacterial Treatment

- If have contact lenses ,take them out. Bacterial conjunctivitis is more common in contact lens users.
- Treated with antibiotic eye drops or ointments to lessen the duration and decrease the spread.
- A few example of meds—Ofloxacin 1-2 drops 4 times/day for 1 week, Trimethoprin/polymyxin B 1 or 2 drops 4 times/day for 1 week, Cipro drops or ointment, Gentamycin drops or ointment.

Treatment of Viral Conjunctivitis

- ▣ Topical antibiotics not necessary because secondary bacterial infection is uncommon
- ▣ Reassurance that the symptoms may get worse for 3-5d before getting better and persist for 2-3 weeks
- ▣ Some relief from cold compresses and topical antihistamines/decongestants
- ▣ Do not use topical corticosteroids due to risk of sight-threatening complications (scarring, corneal melting, perforation), especially if etiology is herpes simplex virus or bacterial keratitis

HSV/HZV

- Ganciclovir gel (Zirgan) x5/day
- Trifluridine 1% (Viroptic), x9/day
- Oral acyclovir 400mg x 5 daily ten days

Help Prevent Spread

2. Hordeolum (Stye): is a localized infection or inflammation of the eye lid margin involving hair follicles of eyelashers or meibomian gland (supply of meibumian, an oily substance)

✘ **Etiology:** Associated with staphylococci infection, .
Common in young adults & debilitated persons(very week person).

✘ **Symptoms:** Ac. Pain & tenderness over inflamed Zeis's gland

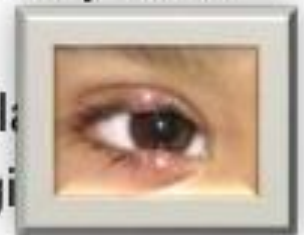
✘ **Signs:** Localized Pain, redness & edema near the lid margin

✘ **Treatment:** Hot fomentation, (to apply a warm compressor eye)
Evacuation of pus,

✘ antibiotic eye drop = tobramycin = it is killing or slow the growth of certain type of bacteria.

✘ & ointment & broad spectrum antibiotics is useful.

- Analgesics & anti-inflammatory drugs control pain & inflammation.



3. **Chalazion:** It is chronic granulomatous inflammation (produced in response to infection, inflammation,) or the presence of a foreign substance. of mei-bomian gland.

✦ **Etiology:** due to chronic irritation due to organism of low virulence (**The ability of bacteria to cause disease**)where the glandular tissue is replaced by granulation tissue containing giant cells.

- Occur in crops, more common in adults.

✦ **Symptoms** : No pain unless secondary infected

✦ **Signs:** Small non tender hard swelling slightly away from and swelling lid margin ,swelling is red or purple, can be grey in later stages, yellow when secondary infected with pyogenic organisms.

✦ **Treatment:**

b) Inj. Triameinolone directly into the chalazion cause complete resolution.

It prevents the release of substances in the body that cause inflammation.



4. **Internal Hordeolum** : It is an acute Supportive inflammation (formation of pus)of mei-bomian glands
- ✘ **Etiology:** Occurs due to secondary infection (**occurs during or after treatment for another infection.**) of chalazion.
 - ✘ **Symptoms** : More violent than sty because the gland is larger & embedded deeply in the dense fibrous tissue.
 - ✘ **Sign** : Yellow spot (pus) seen shining through the conjunctiva on averting (remaining) the lid;
 - ✘ **TREATMENT**
 - ✘ **Warm compresses and massages of the lesions for 10 minutes 4 times per day**
 - ✘ **Tropical anti biotic ointment**
 - ✘ **Amoxicillin**
 - ✘ **Doxycycline**
 - ✘ **Erythromycin**

