Conjunctivitis And it's Homoeopathic Therapeutics

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Definition:

- Conjunctivitis is an inflammation or infection of the transparent membrane (conjunctiva) that lines the eyelid and covers the white part of the eyeball.
- Also known as “pink eye”
- Conjunctival hyperaemia associated with discharge which may be water, mucoid, mucopurulent or purulent.

Types of conjunctivitis

A. Infective Conjunctivitis: Inflammation of conjunctiva caused by micro-organism

1. Bacterial Conjunctivitis:
    i. Acute bacterial conjunctivitis
    ii. Hyperacute bacterial conjunctivitis
    iii. Chronic bacterial conjunctivitis
    iv. Angular bacterial conjunctivitis

2. Chlamydial Conjunctivitis:

i. Trachoma
ii. Adult inclusion conjunctivitis
iii. Neonatal chlamydial conjunctivitis

3. Viral Conjunctivitis

i. Adenovirus conjunctivitis
   - Epidemic keratoconjunctivitis
   - Pharyngoconjunctival fever

ii. Enterovirus conjunctivitis

iii. Molluscum contagiosum conjunctivitis

iv. Herpes simplex conjunctivitis

4. Opthalmia Neonatorum

5. Granulomatous Conjunctivitis

B. Allergic Conjunctivitis

1. Simplex Allergic Conjunctivitis
    i. Rhinoconjunctivitis
    ii. Seasonal Allergic Conjunctivitis
    iii. Perennial Allergic Conjunctivitis
2. Vernal keratoconjunctivitis
3. Atopic Keratoconjunctivitis
4. Giant Papillary Conjunctivitis
5. Phlyctenular Conjunctivitis
6. Contact dermatoconjunctivitis

C. Cicatricial conjunctivitis

1. Ocular mucous membrane pemphigoid
2. Stevens Johnson Syndrome
3. Toxic Epidermal Necrolysis
4. Secondary Cicatricial Conjunctivitis

D. Toxic Conjunctivitis

1. Secondary to Molluscum Contagiosum
2. Chemical Toxic Conjunctivitis

Infective Conjunctivitis:
1. Bacterial conjunctivitis

- It is commonest cause of conjunctivitis in developing countries.
- Can occur as sporadic and epidemic.
- Highly contagious.
- Predisposing factors: Flies, poor hygienic condition, hot dry climate, poor sanitation.

Etiology

- Causative organisms:
  - Staphylococcus Aureus: Most common cause
  - Staphylococcus Epidermidis:
  - Streptococcus pneumoniae: Cause acute conjunctivitis usually associated with subconjunctival haemorrhage. Self limiting 9-10 days.
  - Streptococcus pyogenes: Produce pseudomembranous conjunctivitis
  - Haemophilus infuenzae: Classically causes epidemics of mucopurulent conjunctivitis, k/a Red Eye

Etiology

- Moraxella lacunata: Common cauase of angular conjunctivitis and Blepharoconjunctivitis.
- Pseudomonas pyocyanea: Invades the cornea
- Neisseria gonorrhoeae: Produce acute purulent conjunctivitis in adults and ophthalmia neonatorum in new born. Capable of invading corneal epithelium
- Neisseria meningitidis: Mucopurulent conjunctivitis
- Corynebacterium diphtheriae: Acute membranous conjunctivitis.

Mode of infection

- Exogenous:
  1. Directly through close contact, airborne, waterborne
  2. Vector transmission: Flies
  3. Material transfer: infected finger, nurse, doctors, towels
- Local spread: From neighbouring structures, like lacrymal duct, lid, nasopharynx
- Endogenous infection: Through blood

Clinical types

i. Acute bacterial conjunctivitis
ii. Hyperacute bacterial conjunctivitis
iii. Chronic bacterial conjunctivitis
iv. Angular bacterial conjunctivitis

Acute Bacterial Conjunctivitis

- Marked conjunctival hyperaemia and mucopurulent discharge from eye.
- Also k/a acute mucopurulent conjunctivitis.
- Common causative bacteria:
  - Staph. Aureus
  - H. influenzae
  - Pneumococcus
  - Streptococcus

Clinical features

- Symptoms:
  - Discomfort and foreign body sensation,
  - Mild photophobia,
  - Hyperaemia and Mucopurulent discharge,
  - Sticking together of lid margins,
  - Slight blurring of vision,
  - Coloured halos

- Signs:
  - Flakes of mucopus seen at fornices, canthi and lid margins,
  - Conjunctival congestion,
  - Chemosis,
  - Papillae of fine type seen,
  - Oedematous eyelids,
  - Petechial hemorrhages,
  - Matted cilia with yellow crusts

Complications

- Superficial punctate epitheliopathy,
- Marginal corneal ulceration,
- Superficial keratitis,
- Blepharitis,
- Dacryocystitis

Hyperacute bacterial conjunctivitis

- Onset is hyperacute: 12-24 hours
- Causative agent is Neisseria species, most commonly Neisseria gonorrhoeae.
- Presentation: copious, purulent discharge with rapidly progressive symptoms (12-24 hrs) pain which is moderate to severe, lid swelling, and tender and enlarged preauricular LNs.
- Occurs in 2 form
  - Adult Purulent conjunctivitis
  - Ophthalmia neonatorum in new born

Chronic bacterial conjunctivitis

- Also k/a Chronic catarrhal conjunctivitis or simple chronic conjunctivitis.
- Characterized by Mild catarrhal inflammation of conjunctiva, Chronic redness, burning, Difficulty in keeping eye open, watering, feeling of sleepiness.
- Etiology: Chronic exposure to dust, smoke or chemical… eye strain, local irritation, insomnia, alcohol abuse.
- Causative organism: Stapphylococcus aureus, gram negative rods (Klebsiella, E.coli)

Angular Bacterial Conjunctivitis

- Type of chronic conjunctivitis.
- Mild grade inflammation confined to Conjunctiva and lid margins near angles.
- Causative organism: Moraxella (Usually from nasal cavity)
- C/F: irritration, burniong sensation, feeling of discomfort, redness of angles of eye.

Chlamydial Conjunctivitis

- Chlamydia lies b/w bacteria and viruses sharing some properties of both.
- Three type
  - Trachoma
  - Adult inclusion conjunctivitis
  - Neonatal chlamydial conjunctivitis

TRACHOMA

- Previously K/a Egyptian Ophthalmia.
- It is a chronic keratoconjunctivitis.
- Characterized by mixed follicular and papillary response of conjunctival tissue.
- One of the leading cause of preventable blindness in the world.
- Causative organism: Chlamydia Tracomatis- 11 serotypes have been identified : A, B, Ba, C, D, E, F, G, H, J, and K.
- A, B, Ba and C cause Hyperendemic blinding trachoma.
- D to K : inclusion conjunctivitis (oculogenital Chlamydial disease)

Predisposing factors

- Age: no age bar but chances decreases in infancy and early childhood.
- Sex: common in females.
- Race: Very common in jews and less common in negroes.
- Climate: common in areas with dry and dusty weather.
- Socioeconomic status: more common in poor classes with unhygienic living, overcrowding, unsanitary condition.
- Environmental factors: Exposure to dust, smoke, irritants, sunlight increase the risk.

- **6 D's:** Dry, Dusty, Dirty, Dung, Discharge, Density (crowding)

Source and mode of infection

- Source of infection is conjunctival discharge of infected person.
- May spread through:
  - Direct spread: direct contact through airborne or waterborne modes
  - Vector transmission: Through flies
  - Material transfer: through contaminated finger of doctor, nurse, through towel, handkerchief, bedding.

- **5 F's:** Fingers, Flies, Face, Faeces, Fomites

Clinical features

- C/f of trachoma described into 2 phages:

1. Phase of active trachoma: usually occurs during childhood.

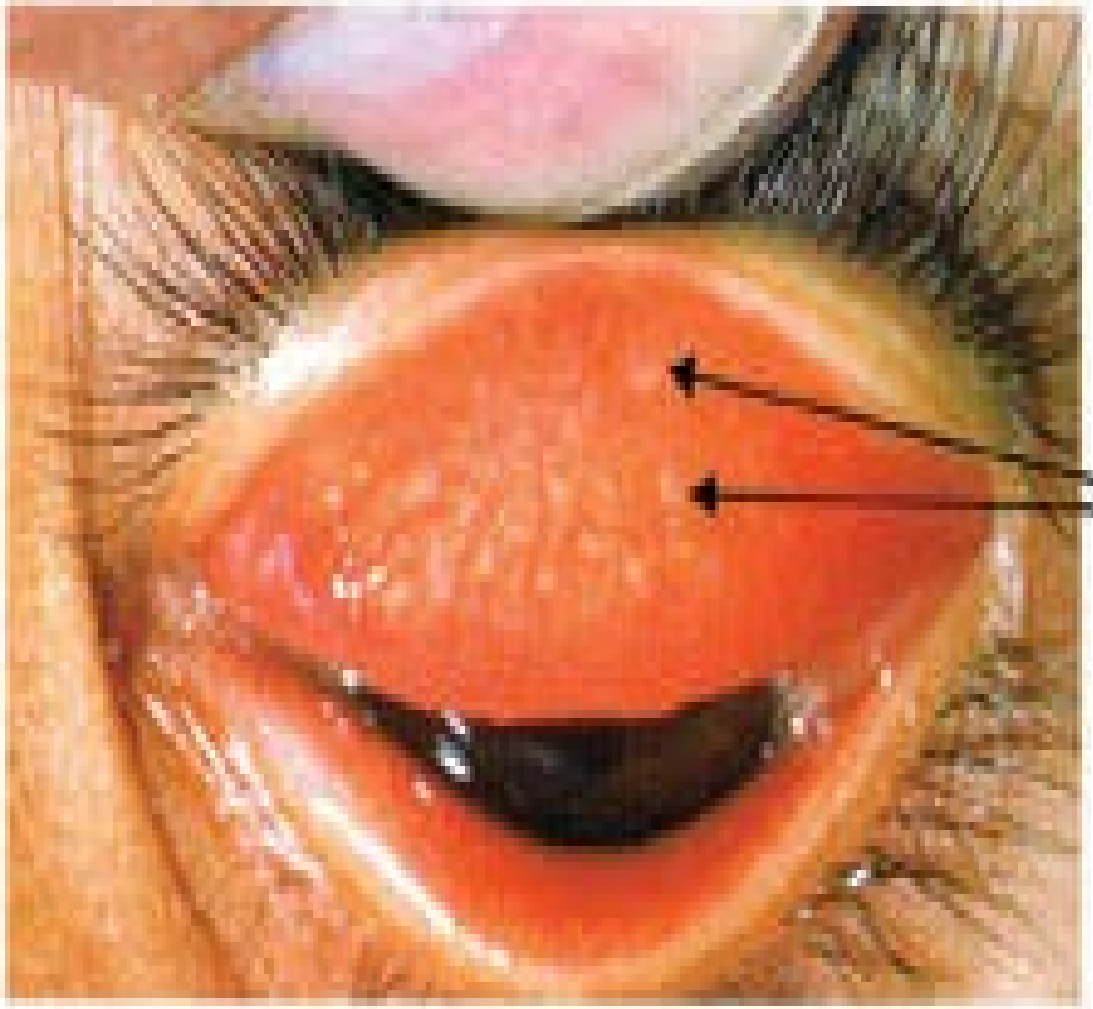
- Incubation period: 5-22 days
- Onset is usually insidious or subacute, rarely present in acute form.

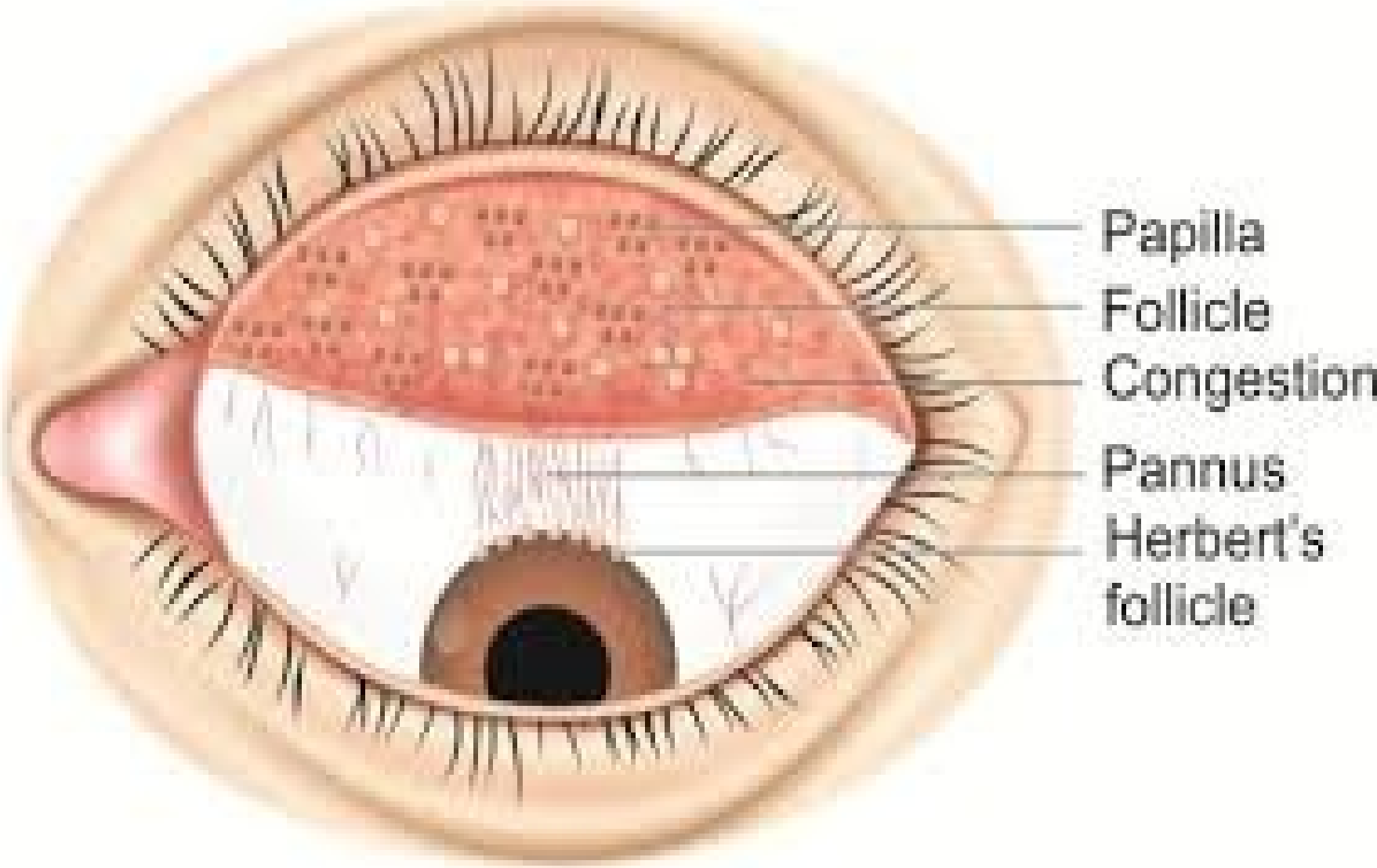
Symptoms:

- Mild foreign body sensation
- Occasional lacrymation
- Slight stickiness of the lids
- Scanty mucoid discharge.
- With secondary bacterial infection: acute mucopurulent conjunctivitis.

Sign

- Conjunctival sign:
  - Congestion of upper tarsal and forniceal conjunctiva.
  - Conjunctival follicles look like boiled sagograins
  - Papillary hyperplasia
- Corneal sign:
  - Superficial keratitis
  - Herbert follicle present in limbal area, histologically similar to conjunctival follicles.
  - Progressive pannus: Infiltration of cornea with progressive vascularization.
  - Corneal ulcer: sometimes


trachomatous
follicles


Papilla
Follicle
Congestion
Pannus
Herbert's follicle

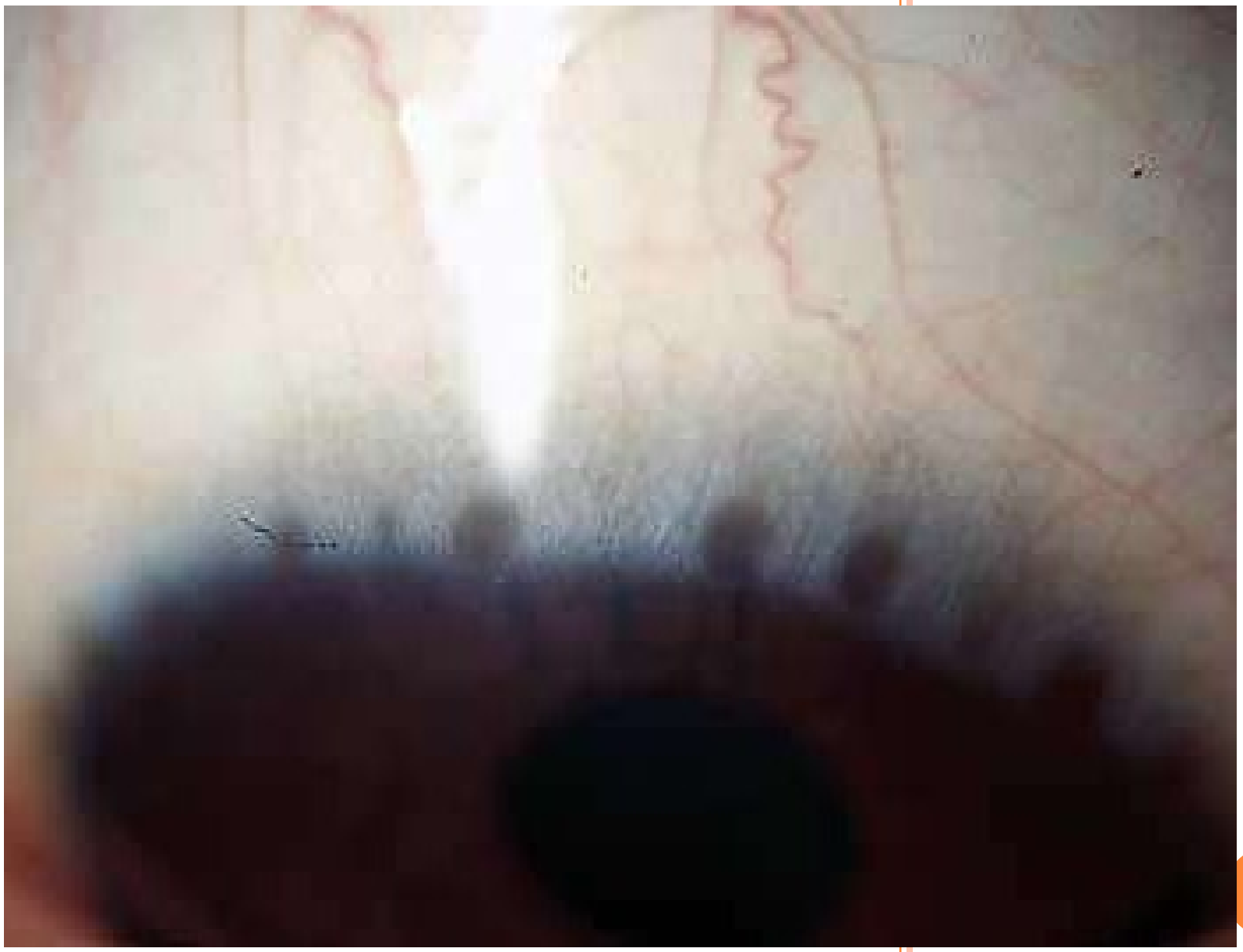
2.Phase of cicatrical trachoma

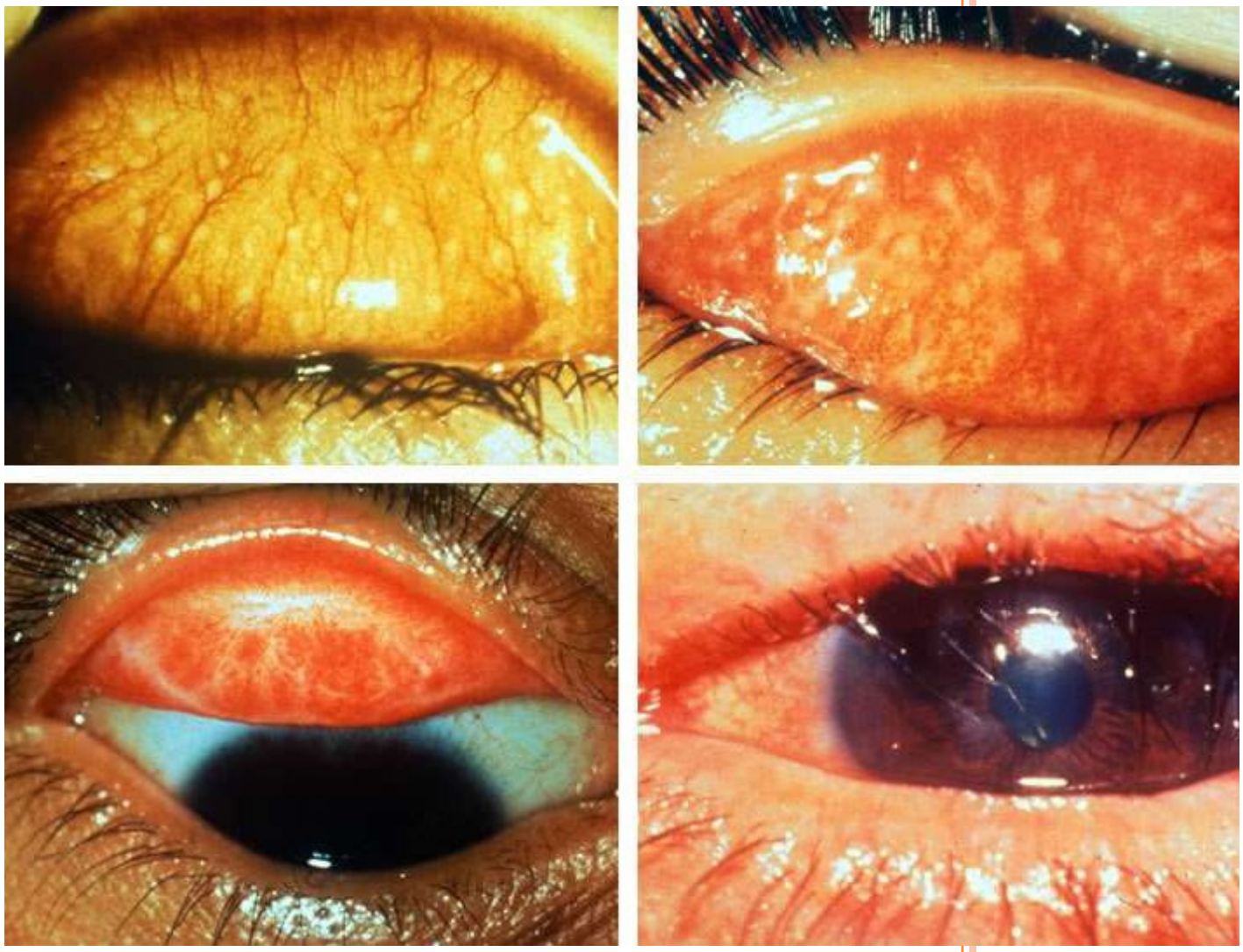
- Occurs in middle age, results due to continued mild grade chronic inflammation.
- Conjunctival sign:
  - Conjunctival scarring
  - Concretions: hardlooking whitish deposits varying from pin point to 2 mm in size. (Not calcareous, form due to accumulation of dead epithelial cells)
  - Other conjunctival sequele: Pseudocyst, xerosis, symblephron.

- Corneal Sign:
  - Regressive pannus
  - Herverts pits: left after healing of herberts follicle
  - Corneal opacity
  - Other corneal sequelae: corneal ectasia, corneal xerosis, total corneal pannus (Blinding sequelae)

- Lid sign: Trichiasis, entropion, tylosis (Thickening of lid margin), Ptosis, madrosis and ankyloblephron.

- Lacrymal appratus: Chronic dacrocystitis





Grading of trachoma

- McCallan's classification:
  - Stage I: Incipient trachoma or stage of infiltration
  - Stage II: Esstablished trachoma or stage of florid infiltration
  - Stage III: cicatrising trachoma or stage of scaring
  - Stage IV: Healed trachoma or stage of sequelae

WHO CLASSIFICATION(FISTO)

- Developed for use by trained personnel other than ophthalmologists to assess the prevalence and severity of trachoma in population-based surveys in endemic areas.

- **TRACHOMATOUS FOLLICULAR(TF)**
  - Active disease
  - 5 or more follicles of > 0.5mm on upper tarsus
  - Deep conjunctival vessels seen
  - If treated properly- no scarring

- **TRACHOMA INTENSE**
  - Severe disease, needs urgents rx
  - diffuse involvement of the tarsal conjunctiva, obscuring 50% or more of the normal deep tarsal vessels; papillae are present

- **TRACHOMATOUS SCARRING-**
  - Inactive infection
  - Conjunctival ***scarring***
  - Visible fibrous white bands on tarsal conjunctiva

- **TRACHOMATOUS TRICHIASIS**
  - At least one lash touching the globe
  - Needs corrective surgery

- **CORNEAL OPACITY**
  - Cause significant visual impairment

DIAGNOSIS

- Requires **at least 2 of the following clinical** features:
  - follicles on the upper tarsal conjunctiva
  - limbal follicles and their sequelae (Herbert pits)
  - typical tarsal conjunctival scarring
  - vascular pannus most marked on the superior limbus

LAB INVESTIGATIONS

- Conjunctival inclusion bodies- giemsa/ iodine/ immunofluorescence staining
- Conjunctival cytology- giemsa stain- polymorphonuclear reaction with leber cells
- ELISA- chlamydial Ags
- PCR
- Microimmunoflourescence (microIF)- for Abs
- Direct monoclonal ab microscopy- rapid and inexpensive
- McCoy cell cultures

DIFFERENTIAL DIAGNOSIS

- Allergic/ vernal conjunctivitis
- Bacterial conjunctivitis
- Follicular conjunctivitis

MANAGEMENT

A)Treatment – of active disease and sequalae

B) Prevention

- Rx of active disease
- **Antibiotics- main stay**
- Oral- Azithromycin 1gm stat
- Tetracycline or erythromycin 250mg QID for 4 weeks
- Doxycycline 100mg BD for 4 weeks

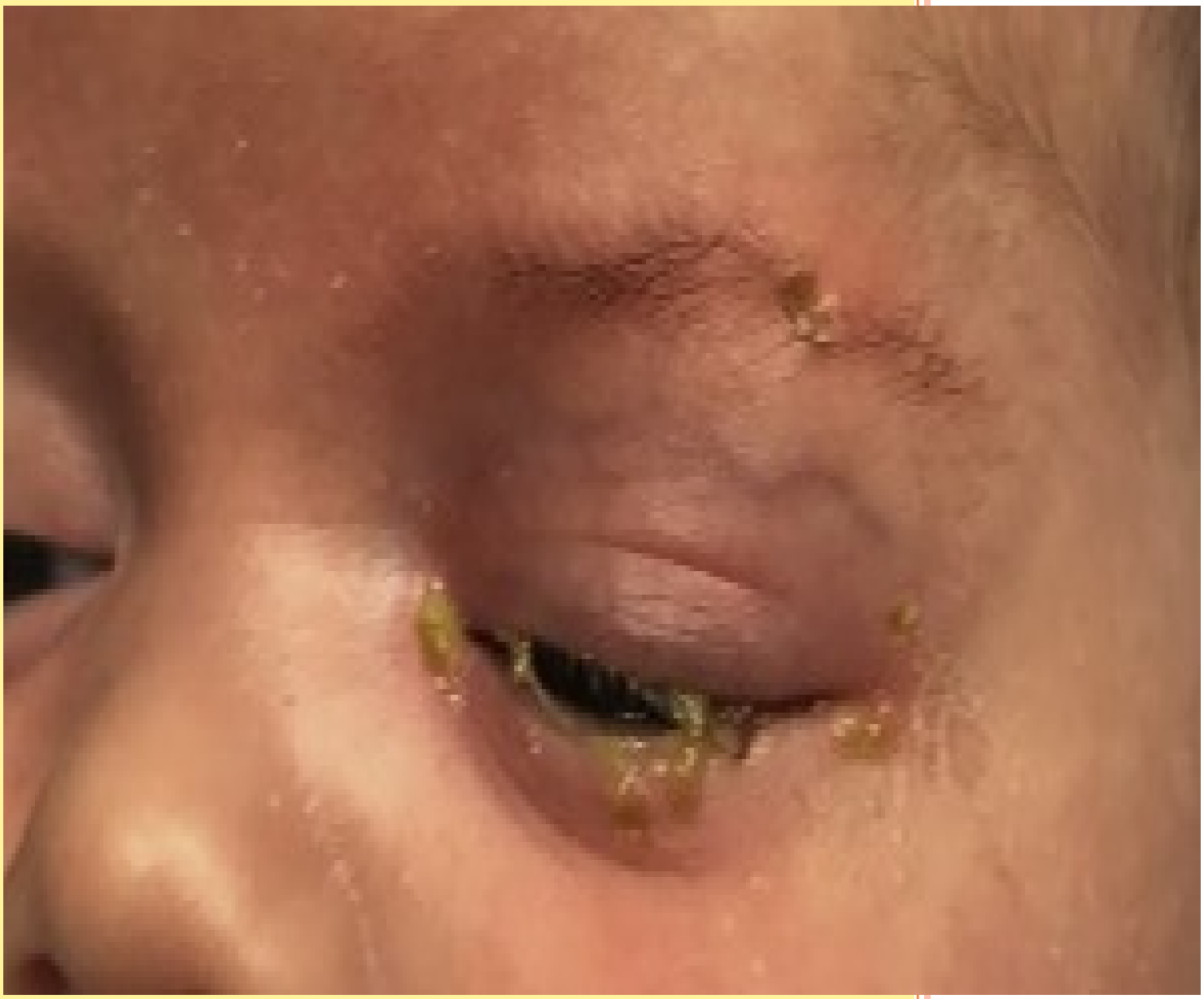
- Topical – best for indiviual cases, cheaper, no systemic side effects
  - Regimes – 1% tetracyclines/ erythtromycin eye ointment QID for 6 weeks
  - 20% sulfacetamide eye drops thrice daily with
  - 1% tetracycline oint at bedtime for 6 weeks
  - Other topical antibiotics for secondary bacterial infections
  - Lubricants
  - Analgescics

PROPHYLAXIS

- Good personal hygeine and environmental sanitation
- Health education
- Use of common towels, hankerchiefs are discouraged
- Clean water supply for washing
- Flies control- insecticides, good sewerage, garbage disposal, window screen protectors
- Prevention of recurrent infections
- Early detection and rx

Ophthalmia neonatorum

- Defination: inflammation of the conjunctiva in the first 28 days of life.
- Also known as **Neonatal Conjunctivitis.**
- It is rare and acute
- It is a preventable disease and result from carelessness during child birth.
- The infection is acquired from the mother during delivery
- It must be treated immediately to prevent permanent eye damage or blindness.



Source and mode of infection

- **Before birth:** Very rare but can occur through infected liquor amnii
- **During birth:** Most common and infection can occur through infected birth canal.
- **After Birth:** During 1st bath or from soiled clothes, or infected finger.

Causative agents

- Chemical conjunctivitis: by chemical irritants (In older days silver nitrate was the common cause). Incubation period is 6 hours
- Gonococcal infection: previously it was responsible for 50% of blindness in children, but now its incidence has decline specially in developed countries. Incubation period is 4 days
- Other bacteria: Staphylococcus aureus, Streptococcus haemolyticus, Streptococcus pneumoniae. Incubation period is 5 days
- Neonatal inclusion conjunctivitis is caused by chlamydia trachomatis serotype D toK. Commonest Cause in developed countries. Incubation period is 21 days
- Herpes simplex II virus ophthalmia neonatorum is rare. Incubation period is 15days.

Clinical Features

- Pain and tenderness in eyeball
- Conjunctival discharge: purulent in gonococcal, mucoid or mucopurulent in other bacteria and chlamydal infections.
- Lids swellon.
- Mild papillary response in chlamydial and HSV infection.
- Corneal involvement is rare, but may occure in HSV type in the form of superficial punctate keratitis.

Treatment

- Prophylactic: Antenatal, Natal and postnatal care.

- Curative treatment: saline lavage, eye ointments, Systemic antibiotics.
- Chemical Ophthalmia Neonatorum is self limiting,

HOMOEOPATHIC MEDICINES

- Aconite: Eye: Red, inflamed. Feel dry and hot, as if sand in them. Lids swollen, hard and red. Aversion to light. Profuse watering after exposure to dry, cold winds, reflection from snow, after extraction of cinders and other foreign bodies.

- Allum cepa: Eyes : burning, biting, smarting as from smoke, must rub them; watery and suffused; capillaries injected and excessive lachrymation.

- Argentum Nitricum: Acute granular conjunctivitis; scarlet red, like raw beef; discharge profuse,muco-purulent. Ophthalmia neonatorum: profuse,purulernt discharge; cornea opaque, ulceration; lids sore, thick, swollen; agglutinated in morning.

- Belladona: Eyes: Throbbing deep in eyes on lying down. Eyes feel swollen and protruding, staring, brilliant; conjunctiva red; dry, burn; photophobia; shooting in eyes. Exophthalmus. Ocular illusions; fiery appearance. Diplopia, squinting, spasms of lids. Sensation as if eyes were half closed. Eyelids swollen. Fundus congested.
- Eupharasia: the eyes water all the time and are agglutinated in the morning; margins of lids red, swollen, burning.
- Hepar: Red and inflammed eye and lids, ulceration of cornea, Inflammation of conjunctiva with pus discharge, seeing bright circle infront of eyes.
- Other: Iod, kali.bi, natrum, Puls, Rhus.tox, Staph, Sulph, Thuja, Zinc

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