



Gaza Ophthalmic Centre

2.1 The Conjunctiva

(Part 2)

Ophthalmology

FOR GP's & MEDICAL STUDENTS

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Good morning. This is part two of the conjunctival eye diseases and this lecture is devoted to .Trachoma

1.5 Trachoma

Definition :

- Chronic,
- Infective
- Inflammation
 - of
- Conj & cornea
 - of
- Human's



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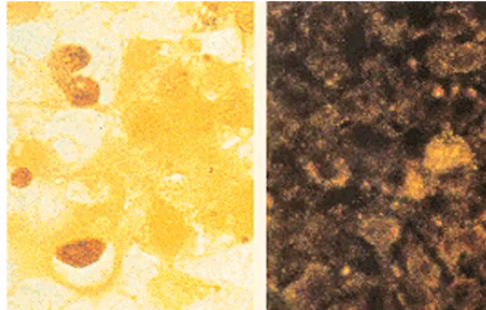
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Trachoma is very prevalent, sort of chronic eye infection. It starts with inflammation of the conjunctiva and the cornea of human beings and followed by severe fibrosis and sequelae with complications

Trachoma

Caused by:

- Chlamydia



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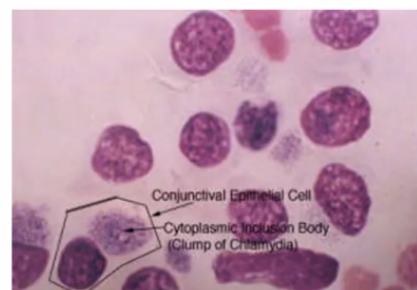


trachoma is caused, which is atypical virus called chlamydia trachoma

Trachoma

Etiology:

- Trachoma is caused by
 - Atypical "virus"
- Called
 - Chlamydia Trachomatis



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Trachoma

Atypical because :

1. Sensitive to
 - Sulphonamides &
 - Antibiotics
2. Produces
 - Intra cytoplasmic
 - Basophilic
 - Inclusion bodies



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It is atypical because it's responsive to sulfonamides and antibiotics in contrast to proper viruses, and also it produces basophilic intracytoplasmic inclusion bodies

Trachoma

- Mode of infection:
 - Through conj discharge
 - Carried by
 1. Fingers
 2. Towels
 3. Flies
- Incubation Period
 - 6-12 days



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Trachoma is communicated through conjunctival discharge carried by fingers, the towels and flies, the incubation period is between six and 12

Trachoma

Epidemiology

- Trachoma is endemic in
 - Middle east
 - Central Africa
 - Central & east of Asia
 - East of Europe



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.trachoma is very widely prevalent in the tropics and subtropics .

Trachoma Pathology

Pathology:

Organism secrete toxins

- →
- Follicles



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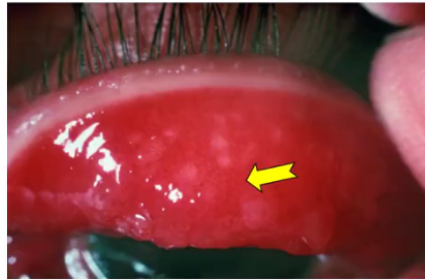
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.The organism secretes toxins which leads to cellular aggregation and follicles

Trachoma Pathology

Conjunctival Epith.

- →
- Hyperplasia
- →
- Papillae



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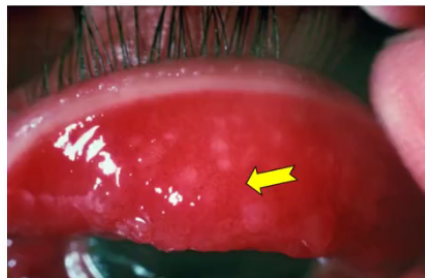
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.the conjunctival epithelial also response to the toxin by hyperplasia, which forms papillae

Trachoma Pathology

Conjunctival Epith.

- →
- Hyperplasia
- →
- Papillae



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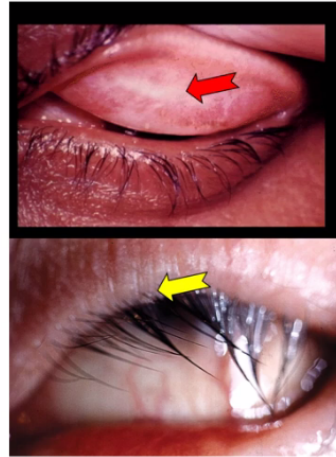
So in other words, trachoma can have follicles, papilla or pannus: which is a cellular vascular .infiltration of the upper part of the cornea

Trachoma Pathology

Characterized by:

2) Healing with:

1. Fibrosis
2. Lid deformity
3. Visual disability



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Healing of the inflammatory process results in fibrosis which leads to complication like lid . deformity leading to visual disability

Trachoma Pathology

1. Follicles:

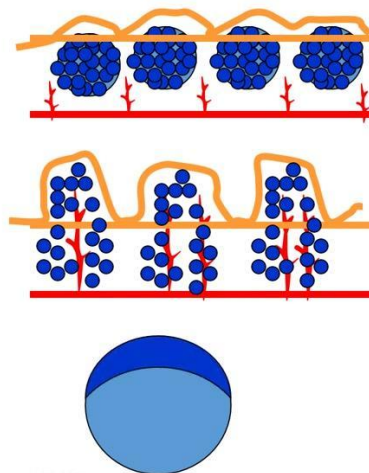
1. Aggregation of lymphoid cells
2. Blood vessels in between

2. Papillae

1. Core of Blood Vessels
2. Surrounded by Cells
3. Raising epithelium

3. Pannus

1. Cell infiltration
2. Blood vessels follow



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follicle starts as aggregation of lymphoid cells with blood vessels in between and that raises the epithelium slightly. however, on the other hand, papilla is a core of blood vessels surrounded by chronic inflammatory cells, and that raising the epithelium giving flat top, Pannus is a cellular infiltration of the upper part of the conjunctiva near the Limbus and then .blood vessels will follow

Trachoma Pathology

Healing

- by fibrosis (T3)



Image from World Health Organization Programme for the Prevention of Blindness courtesy of Thylefors B.

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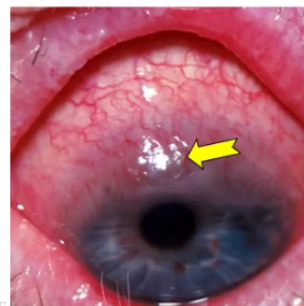
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Healing is usually by fibrosis leads to the complication

Trachoma C/P

• Signs

1. Conjunctival manifestation
2. Corneal manifestation



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.On examination we can see either conjunctiva or corneal manifestation

Trachoma C/P

- Complication

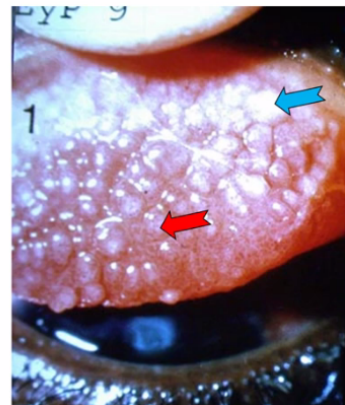


.The complication stage is so evident and that's following fibrosis

Trachoma Pathology

Hyaline degeneration

- → Post Trachomatous Degeneration (P.T.Ds)
- → Post Trachomatons Calcification (P.T.C's)



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Hyaline degeneration in the follicles and the papilla leads to post trachomatous degeneration pTds Which becomes calcified to form PTCs

Trachoma C/P

- Symptoms "few"
 1. F.B sensation
 2. Heaviness of lids
 3. Little discharge
 4. Photophobia



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The patient complaints are few but they include foreign body sensation, heaviness of the .eyelids, little scanty discharge and some photophobia when the cornea is involved

Trachoma C/P

Conj. Manifestations:

Mac-Callen classification

4 stages

- Stage 1 (T1)
- Stage 2 (T2)
- Stage 3 (T3)
- Stage 4 (T4)



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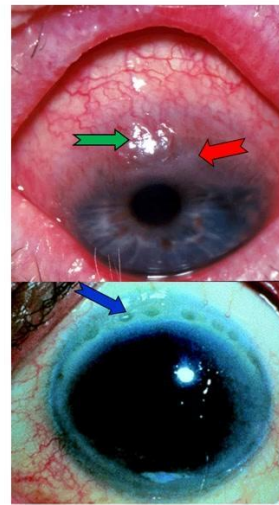
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trachoma can be classified according to the conjunctiva manifestation by Mac Callen to four .stages from T1 to T4

Trachoma C/P

Corneal Manifestation:

1. Corneal follicles
 1. Herbert's rosettes
 2. Herbert's pits
2. Trachomatous Pannus
3. Trachomatous Ulcer



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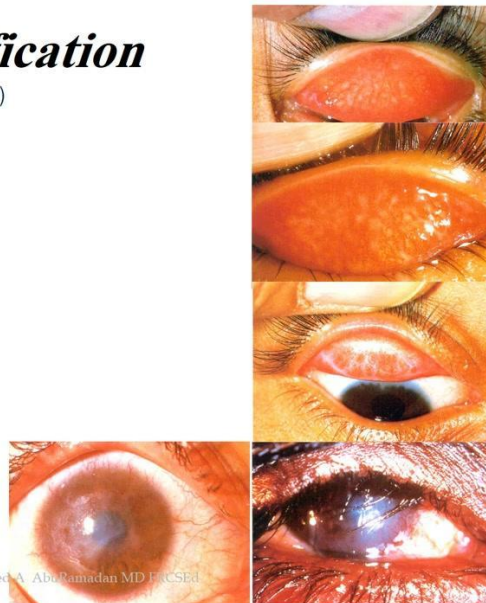
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Corneal manifestation includes: corneal follicles, Herberts rosettes, and Herbert pits, .trachomatous pannus and trachomatous ulcers

Trachoma Classification

Recent WHO Classification of Trachoma (FISTO)

1. TF:
 1. Active trachoma +
 2. Follicles
2. TI:
 1. Intense trachoma conjunctivitis
3. TS:
 1. Trachoma Scarring
4. TT:
 1. Trachomatous Trichiasis
5. CO:
 1. Corneal Opacity



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According to the WHO, there is a new classification which depends on the signs and symptoms. TF involves active trachoma with follicles. TI: involving intense trachoma conjunctivitis, TS scarring is the start of the complication. TT is when the Trichiasis and the eyelashes are turned inward and ,CO,. is the corneal opacity final stage leading to loss of .vision

Trachoma

Trachomatous Pannus:

- Pannus means
 1. Vascularization +
 2. Infiltration
 - Chronic Inflamm. cells
 3. In superficial layers
 - of Cornea



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the Pannus means vascularization and infiltration with chronic inflammatory cells in the superficial layers of the Cornea

Trachoma

Trachomatous Pannus:

Stages:

1. Progressive stage
2. Regressive stage
3. Healing stage



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the Pannus have three stages, the progressive stages in the above picture where we can see here the cellular infiltration which will be soon followed by New vessels and the cornea. When the situation starts to heal and the process stops the cellular infiltration regresses while the blood vessels stay in place. And lastly in the bottom we can see the stage of ..complication the stage of fibrosis or healing when opacification of the cornea Start

Trachoma

Diagnosis:

Depends on :

1. Pathognomic signs
2. Conjunctival Scraping

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trachoma is mainly diagnosed by the pathognomonic signs and work together with the conjunctival scraping And Gimsa

Trachoma

Diagnosis:

- Pathognomic signs

1. Conj:
 1. P.T.Ds
 2. Arlet's line
2. Cornea
 1. Pannus in upper part
 2. Pits

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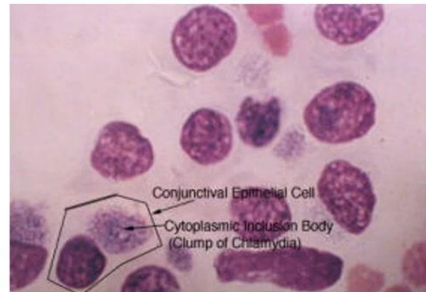


The pathognomonic signs of the conjunctiva are P.T.Ds, as in the above picture. Arlet's lines in the middle one just be in the sub tarsal space and the cornea when the pannus in the upper part or the pits in the healed stage

Trachoma

Diagnosis:

- Conjunctival Scraping:
 1. Stained with Giemsa
 2. Shows Inclusion Bodies
 1. Intracytoplasmic &
 2. Basophilic



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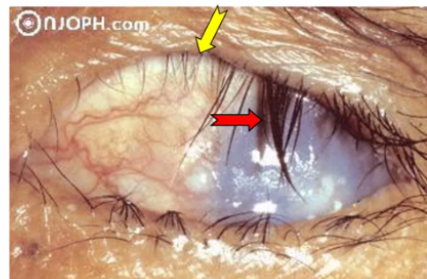
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Gimsa stain shows the typical basophilic intracytoplasmic inclusion bodies inside the .organism

Trachoma

Complications:

- Lid
 1. Trichiasis
 2. Mechanical Ptosis
 3. Cicatricial Entropion
 4. Chalazia



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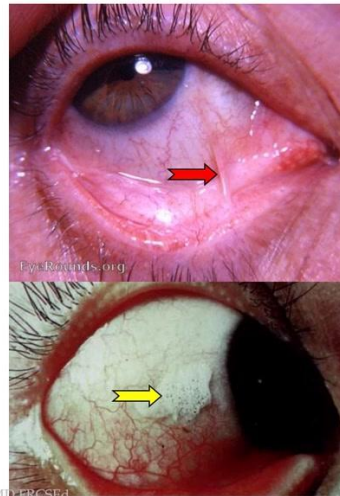
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Complications mainly affects the eyelids causing trichiasis ,mechanical ptosis, cicatricial entropion and recurrent Chalazia

Trachoma

Complications:

- Conjunctiva:
 1. Posterior Symblepharon
 2. Xerosis



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on the conjunctiva there will be a posterior symblepharon which is adhesion between the . palpebral and the bulbar conjunctiva or Xerosis in severe cases due to the severe dryness .and damage of the goblet cells and this and the secondary lacrimal gland

Trachoma

Complications:

- Cornea:
 - Opacities :
 - due to
 - ulceration &
 - pannus
 - keratectasia



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Corneal complication is mainly opacity whether after an ulcer or a pannas and sometimes .Keratectasia in severe form

Trachoma

Complications:

- Lacrimal:
 1. Dacryoadenitis
 2. Dacryocystitis
 3. Epiphora:
 - due to obstruction of
 - Puncta &
 - Canaliculi

lacrimal complications include inflammation of the lacrimal gland itself Dacryoadenitis or the lacrimal sac that dacryocystitis which usually leads to epiphora due to obstruction of the .puncta and the canaliculi

Trachoma

Treatment:

- Prophylactic ttt
- Curative
 1. Medical
 2. Surgical



treatment is mainly prophylactic however, curative treatment can be either medical or .surgical for the complication

Trachoma

Treatment

Prophylactic ttt

1. Health education program
2. Raising standard of living
3. Combat flies



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prophylactic treatment involves health education program., raising the standard of living, .abundance of healthy drink clean drinking water and combating flies

Trachoma

Treatment

Curative

Medical:

1. The trachoma virus sensitive to
 1. Sulphonamides
 2. Broad spectrum antibiotics
2. Systemic :
 1. Sulphadiazine tab.
 2. (1gm t.ds /10 days)
3. Local:
 - Terramycin eye oint
 - > 1/2%
 - for at least 1 month



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Definitive curative medical treatment is by sulfonamides or broad spectrum antibiotics, we can give systemic sulfadiazine tablets for 10 days, one gram three times or local terramycin .ointment for at least one month

Thank you