



PrepLadder



Dr. Sashwat Ray

Subject: Ophthalmology

Unit: Conjunctiva

Topic: Conjunctiva

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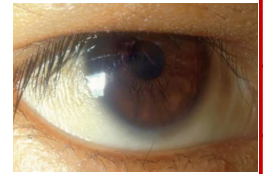
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CONJUNCTIVA

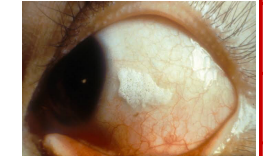
PARTS

- ① BULBAR CONJUNCTIVA → covers the sclera but not the cornea
- ② PALPEBRA CONJUNCTIVA → covers the upper & lower eyelids
- ③ FORNICEAL CONJUNCTIVA → Junction of bulbar & palpebral conjunctiva

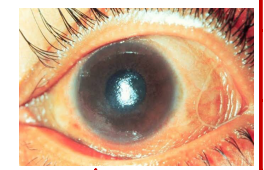
- contains **GOBLET CELLS**
 - secretes mucus
 - mucin stabilizes the tear film
 - max. no. present at infero-nasal conjunctiva
 - deficiency leads to Dry eye



conjunctival xerosis



Bitot's Spot



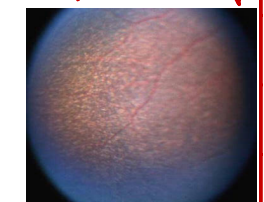
corneal xerosis



keratomalacia [X38]



corneal scarring



xerophthalmic fundus

WHO CLASSIFICATION OF VITAMIN A DEFICIENCY [XEROPHTHALMIA]

TABLE 2. WORLD HEALTH ORGANIZATION RE-CLASSIFICATION OF XEROPHTHALMIA SIGNS

Classification	Ocular Signs
XN	Night blindness
X1A	Conjunctival xerosis
X1B	Bitot's spots
X2	Corneal xerosis
X3A	Corneal ulceration-keratomalacia involving one-third or less of the cornea
X3B	Corneal ulceration-keratomalacia involving one-half or more of the cornea
XS	Corneal scar
XF	Xerophthalmic fundus

→ upto x2 [corneal xerosis], we can reverse it vitamin A

→ TREATMENT

→ VITAMIN A SUPPLEMENTATION

- 2,00,000 IU for children above 1 year
- at 0, 1, 14 days intervals
- [0 → day of presentation]
- 14th day dose is for liver supplementation

CONJUNCTIVAL REACTIONS

① FOLLICLES

- collections of lymphocytes
- seen in → viral infections
- Chlamydeal infections [Trachoma]
- Toxic conditions [BROMONIDINE THERAPY]



Follides

② PAPILLAE

- elevation of conjunctiva & central vascular core
- seen in → Allergic conditions [Vernal catarrh]
- FB reaction



PAPILLAE

CONJUNCTIVITIS

→ Inflammation of conjunctiva

CLINICAL FEATURES

→ Bright red eye

→ no pain

→ Discharge

① Purulent discharge → Bacterial etiology

② Serous discharge → Viral etiology

③ Mucoid discharge → Allergic etiology

EPIDEMIC KERATO CONJUNCTIVITIS

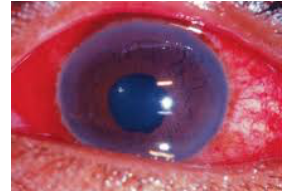
→ caused by Adeno virus 8, 9, 37

→ highly infectious

→ aka ① PINK EYE

② MADRAS EYE

③ SHIPYARD EYE



PINK EYE

ACUTE HEMORRHAGIC CONJUNCTIVITIS [AHC]

→ caused by Picorna virus

→ Enterovirus 70 [more common]

→ Coxsackie virus

→ highly infectious

→ Entero virus aka APOLLO VIRUS XI

→ discovered on 1969

→ disease caused is → APOLLO DISEASE



AHC

OPHTHALMIA NEONATORUM

→ occurs in neonates [first 28 days]

Tears do not form till 1st 28 days

Tears in 1st month of birth → infectious

→ RED EYE IN

→ 1st day → chemical conjunctivitis

→ 2nd - 3rd day → Gonococcal conjunctivitis [most dangerous]

→ > 1 week → chlamydia [mc cause]

→ Only conjunctivitis that causes blindness → Gonococcal conjunctivitis

→ can perforate cornea & causes blindness

→ CREED'S METHOD

→ instilling 1% AgNO₃ as soon as child birth

→ chemoprophylactic against gonococcus

→ but it is toxic → causes chemical conjunctivitis

→ Doc for Prophylaxis → AZITHROMYCIN

KERATO CONJUNCTIVITIS

TRACHOMA / EGYPSTIAN OPHTHALMIA

→ caused by *Chlamydia trachomatis* - A, B, C

→ **CHLAMYDIA TRACHOMATIS**

A, B, C → causes Trachoma

D to K → causes Inclusion conjunctivitis

L₁, L₂, L₃ → Causes Lympho Granuloma venereum [LGV]

→ commonest infective cause of blindness [1-4%]

→ **Geographical distribution**

North Africa → Egypt, Libya, Tunisia, Algeria, Ethiopia, Somalia

South Asia → India, Pakistan, Bangladesh, Sri Lanka

Middle East → Arab countries

Regions with high distribution in India [Endemic Trachoma]

North India

→ Punjab

→ Haryana

→ Uttar Pradesh

→ Uttarakhand

→ Rajasthan

→ Gujarat

→ **CLINICAL FEATURES**

→ Lacrimation

→ Photophobia

→ Red eyes

→ Hall mark → SAGO GRAIN FOLLICLES

→ HERBET PITS seen

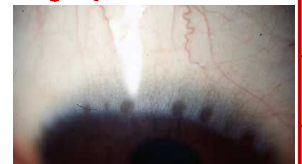
→ ARLT'S LINE on upper palpebral conjunctiva seen

→ ARLT'S TRIANGLE seen in Anterior uveitis

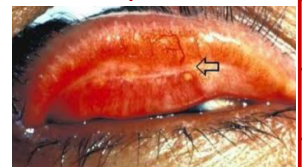
→ PANNUS seen [non specific sign]



Sago grain follicles



Herbert pits



Arlt's line



Pannus

→ **SAFE STRATEGY by WHO**

S → **S**urgery for Trichiasis

A → **A**ntibiotics

→ oral → AZITHROMYCIN [Doc]

→ topical → TETRACYCLINE, ERYTHROMYCIN

F → **F**acial Hygiene

E → **E**nvironmental sanitation

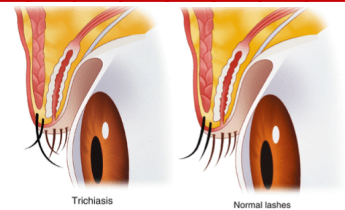
→ **BLANKET/ MASS THERAPY** by WHO for Endemic areas

→ Intermittent therapy

→ 1% Tetracycline ointment OD x 10 days continuously / 1m x 6 months

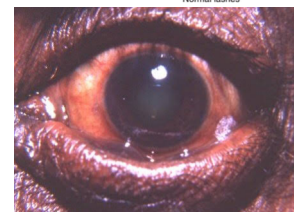
→ 1% TETRACYCLINE ointment BD x 5 days continuously / 1 month x 6 months

- mc affected → children
- 2nd mc affected → Women



OTHER FEATURES

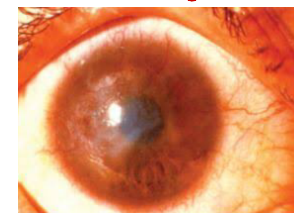
- **TRICHIASIS** → posterior misdirectⁿ of eye lashes
- **TYLOSIS** → Thickening of eye lid margin
- **MADAROSIS** → Loss of eye lashes
- **ENTROPION** → inward turning of eye lid margin
- **CORNEAL OPACITIES**
 - **NEBULA** → most superficial [max. discomfort]
 - **MACULA** → half thickness
 - **LEUCOMA** → Full thickness [max. loss of vision]



TYLOSIS



ENTROPION

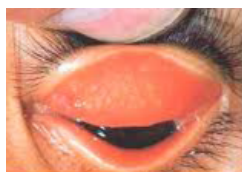


Nebula

WHO GRADING

FISTO CLASSIFICATION

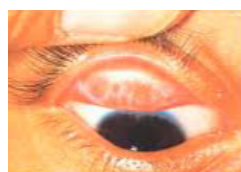
- I → **F** → > 5 follicles in upper palpebral conjunctiva
- II → **I** → Intense inflammation [max infectivity]
- III → **S** → Scarring [healing started]
- IV → **T** → Trichiasis
- V → **O** → corneal opacities



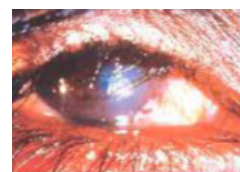
GRADE I



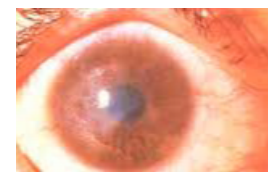
GRADE II



GRADE III



GRADE IV



GRADE V

VISION 2020

→ AIM → 2020 by 2020 → $\frac{20 \text{ Feet}}{20 \text{ feet}} = \frac{6 \text{ metres}}{6 \text{ metres}}$ by 2020

→ By eliminating

- ① cataract → by surgery
- ② Trachoma → by SAFE strategy
- ③ childhood blindness → by vitamin A supplementation
- ④ Refractive error → by spectacle correction
- ⑤ Onchocerciasis → not a problem in India

In India, we consider instead of onchocerciasis

- ⑥ GLAUCOMA →
- ⑦ DIABETIC RETINOPATHY →

→ CSR → cataract Surgical Rate
→ no. of cataract surgeries performed per million/year

→ GET 2020 → Global Eradication of Trachoma by 2020

SPRING CATARRH / VERNAL CATARRH / VERNAL KERATOCONJUNCTIVITIS [VKC]

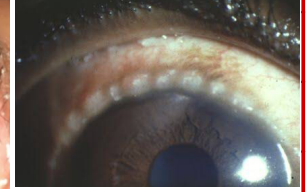
- Misnomer → Occurs in Summer, not in spring [from April to October]
- occurs in children
- Allergic conjunctivitis
- Severe itching present
- COBBLE STONE PAPILLAE seen → Hallmark
- Ropy discharge present
- HORNER TRANTAS SPOTS seen
- SHIELD ULCER seen
- MAXWEL - LYON'S SIGN seen
 - on eversion of eye lid, pseudo - membrane formed by atmospheric heat



Cobble stone papillae



Shield ulcer



Horner Trantas's spots

→ TREATMENT

- DOC → SODIUM CROMOGLYCOLATE [Mast cell stabilizer]
- OLOPATADINE