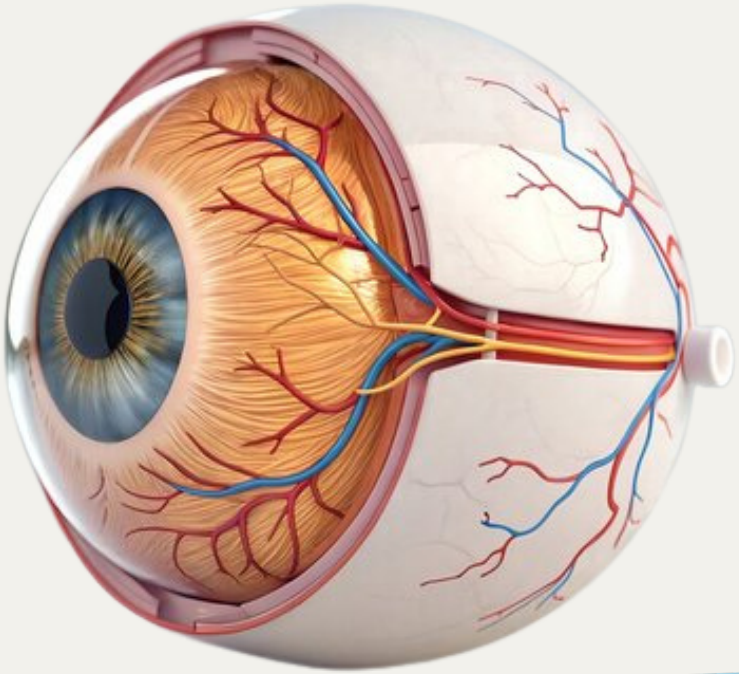
Conjunctival disorders

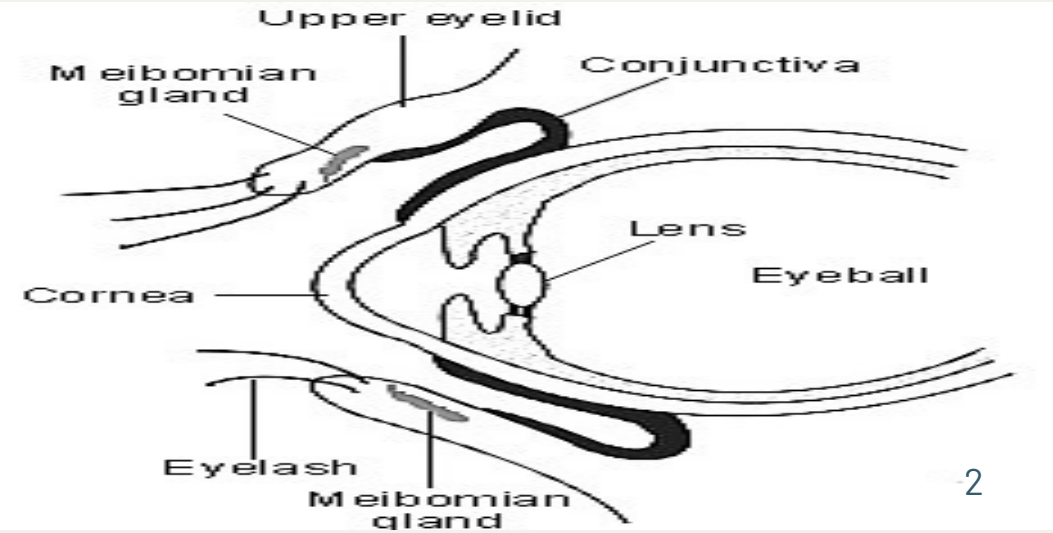
Presented by:
Sadeel Smadi
Raghad Abu Khalaf



Supervised by:
Dr. Ala Khamis

The conjunctiva

- Very thin transparent mucus membrane .
- Covers the anterior part of the eye except the cornea & lines internal surface of the eye lids
- The conjunctival epithelium includes goblet cells that produce the mucin layer of the tear film.

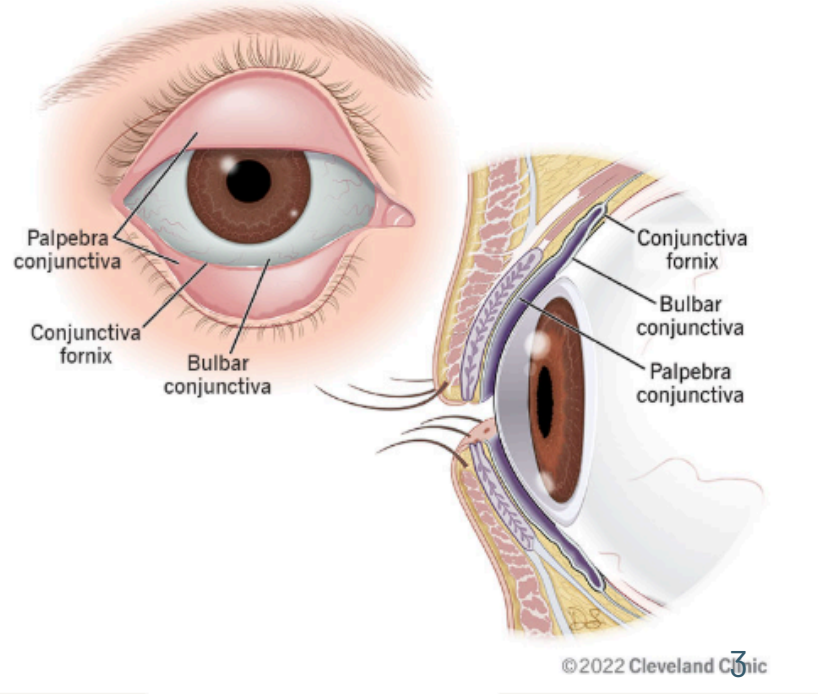


Parts of conjunctiva:

1)Bulbar conjunctiva: attached to anterior part of sclera. Formed of st. columnar epith and gobletlike cells supported by a thin lamina propria of loose vascular C.T.

2)Palpebral (tarsal) conjunctiva: it is richly vascular , extremely thin and strongly bounded to tarsal plate

3)Forniceal conjunctiva:
is the junction between the bulbar & palpebral parts .
Has same lining



Symptoms of Conjunctival diseases

- **Pain : (usually mild in the form of discomfort/foreign body sensation and irretation).**
- **Redness : usually diffuse in conjunctivitis while if circumciliary we should suspect keratitis ,uveitis and angle closure glaucoma**
- **Discharge : purulent (bacterial), mucopurulent (bacterial or chlamydia), watery (viral) and mucoid (allergic).**

Signs of Conjunctival diseases...

- Papillae :These are raised lesions (hyperplastic epithelium), mainly on the upper tarsal conjunctiva, about 1 mm or more in diameter with a central vascular core. They are non - specific sign of chronic inflammation. They result from inflammatory infiltrates within the conjunctiva, constrained by the presence of multiple, tiny fibrous septa.
- Giant papillae seen in allergic conditions .

Cont... of signs..

- Follicles :oval ,pale lesions about 1 mm in diameter, found usually in the lower tarsal conjunctiva and upper tarsal border, and occasionally at the limbus. they represent sub-epithelial lymphoid tissue (it is more specific to viral and chlamydial infections,

- Conjunctival injection (dilated vessels)
- Subconjunctival hemorrhage (usually bright (because it is fully oxygenated by the ambient air, through the conjunctiva).

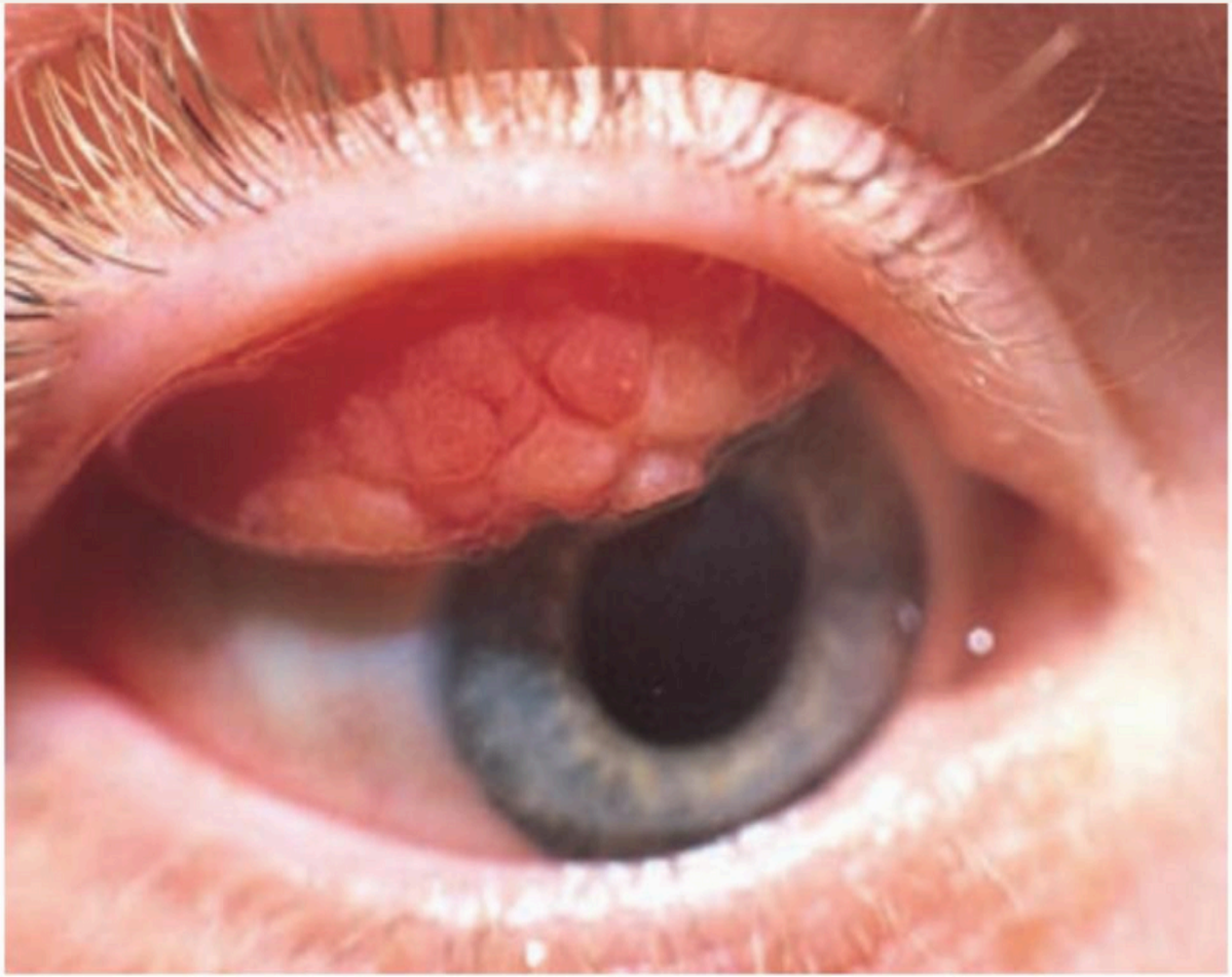
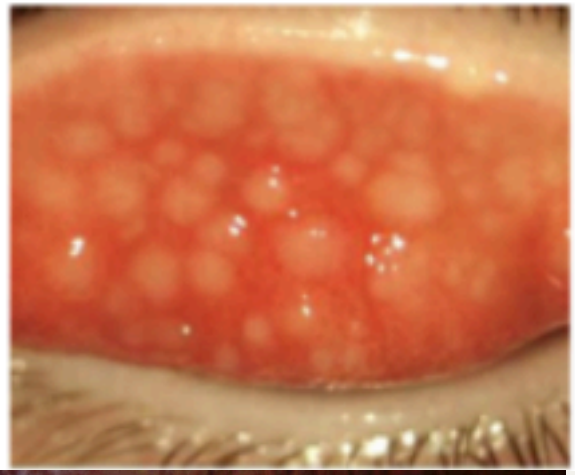
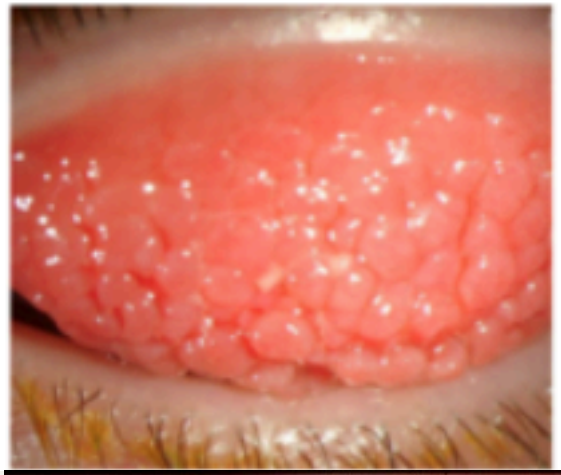
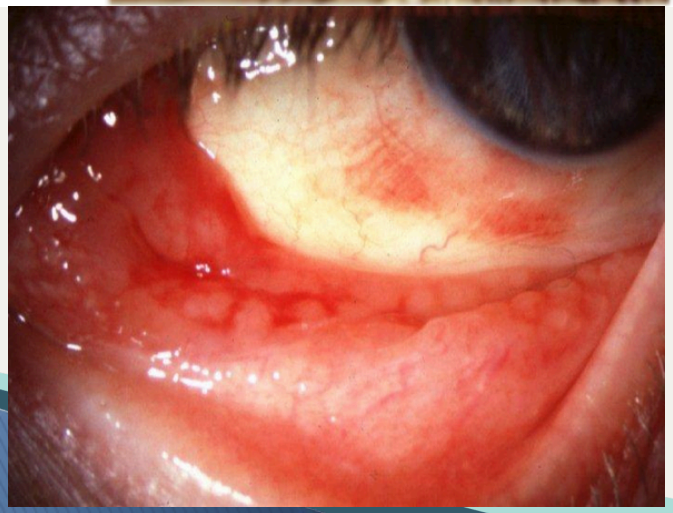


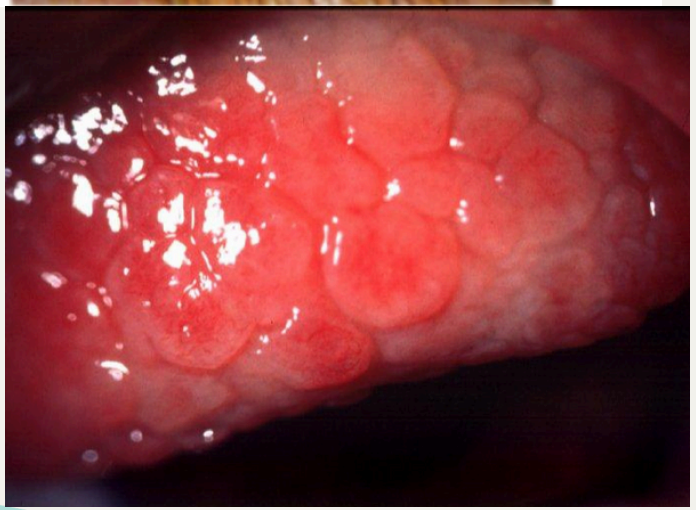
Figure 7.4 The appearance of giant (cobblestone) papillae in vernal conjunctivitis.

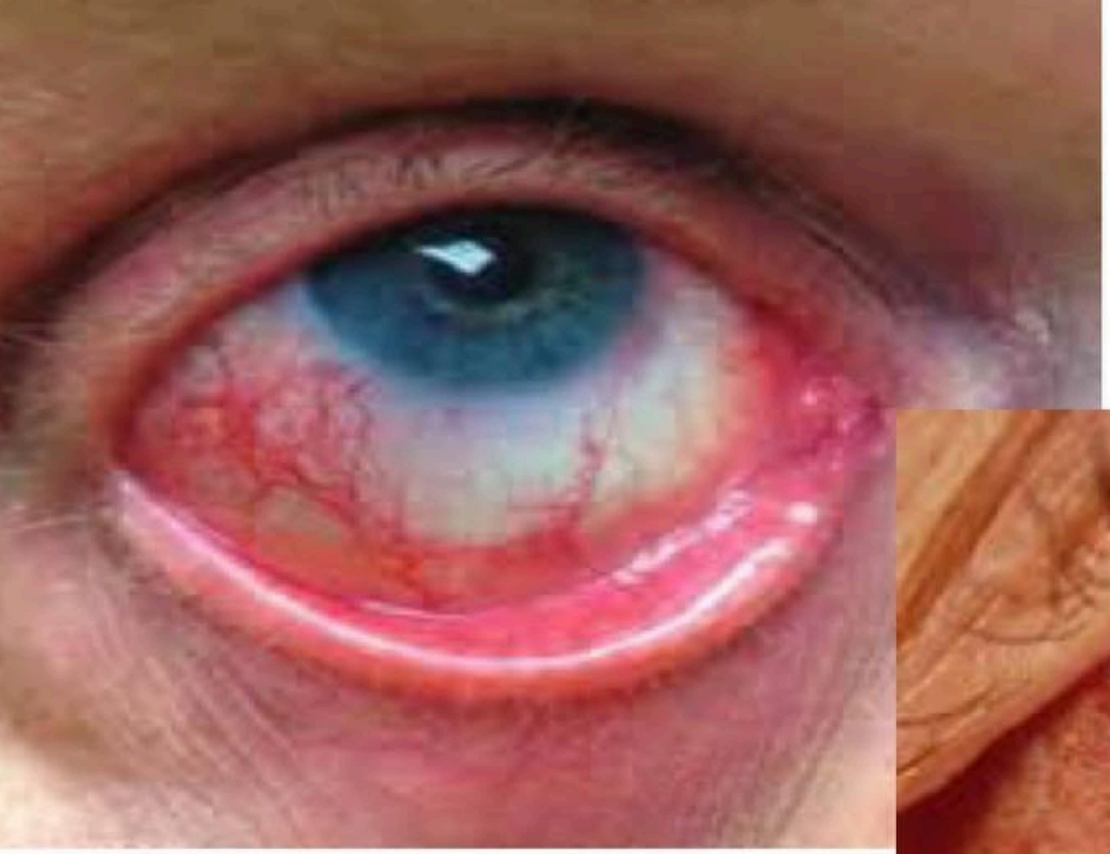
	Follicles	Papillae
Appearance	White-grey nodules (WBC accumulation)	Inflamed areas of elevated conjunctiva
BV	Avascular	Central blood vessel
Conjunctivitis	Chlamydia, toxic, viral	Non-specific, allergic, bacterial
Acronym	"CTV"	"pABillae"





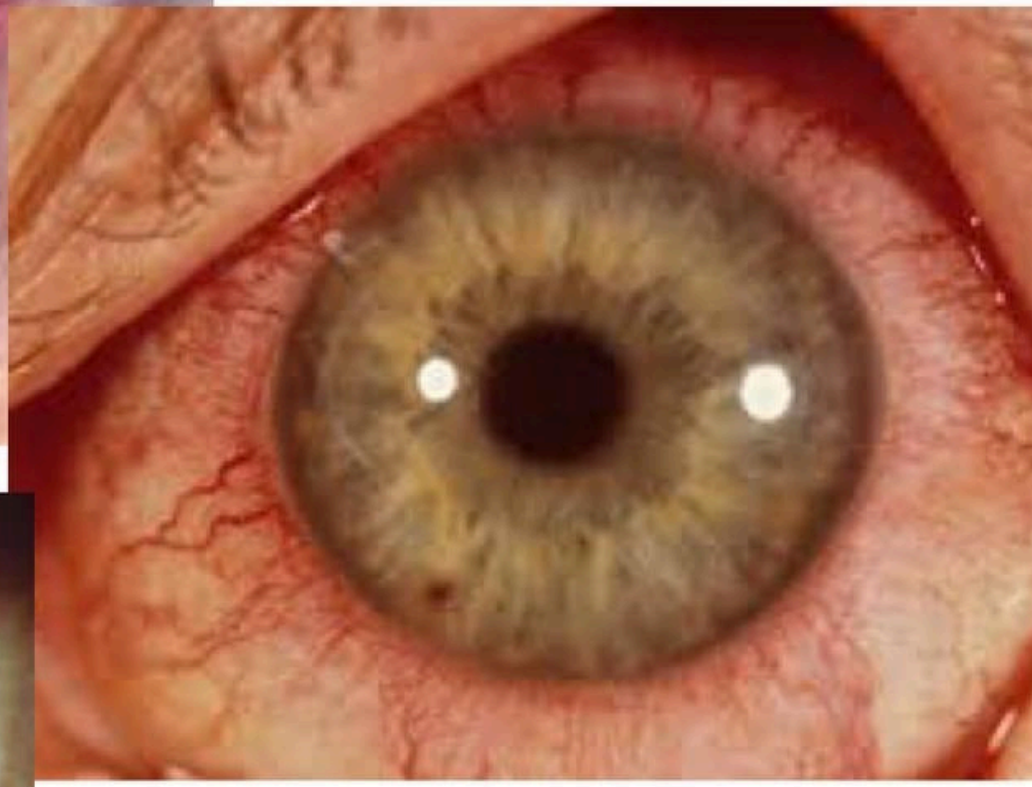


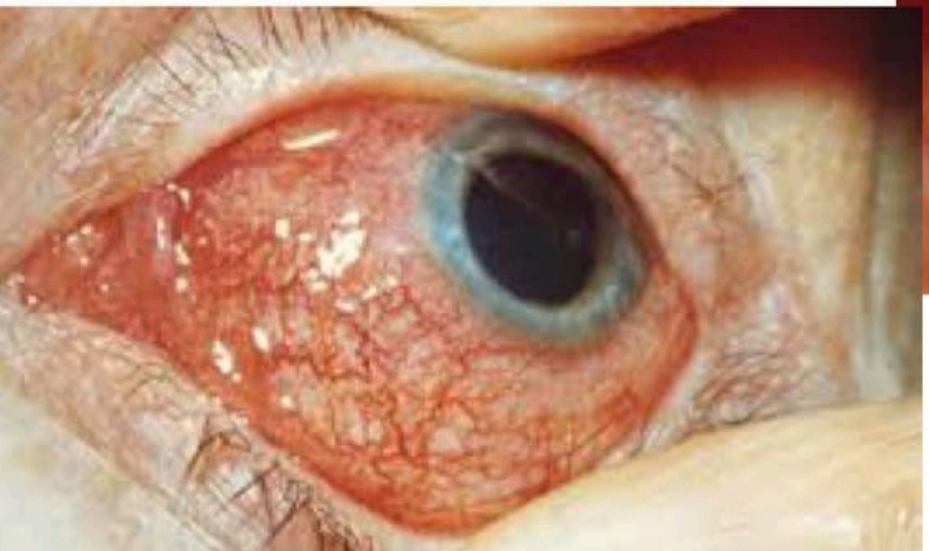


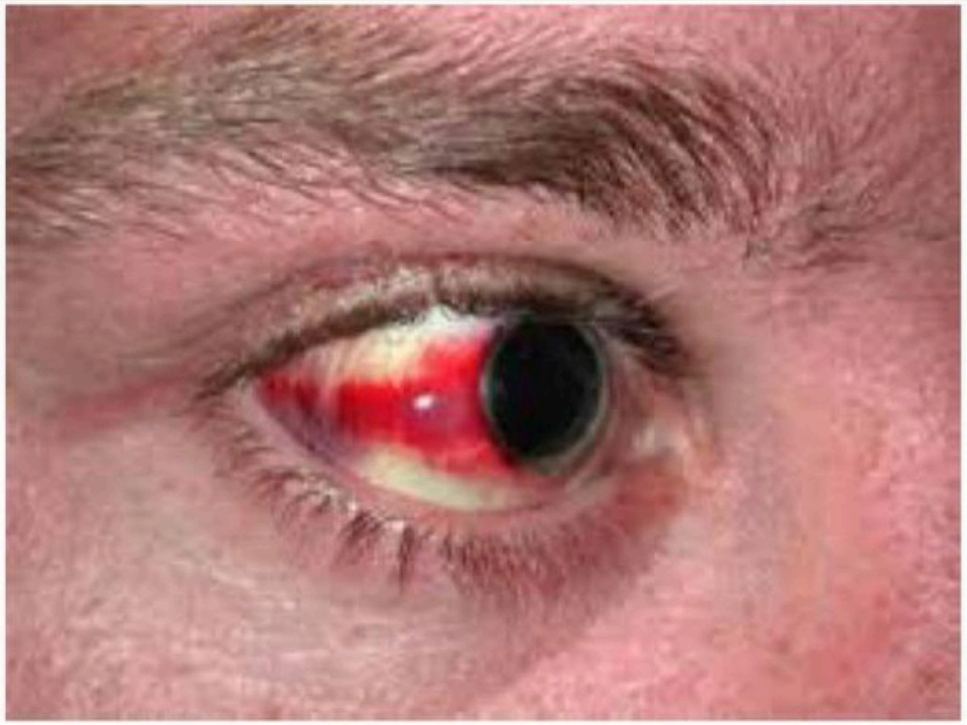


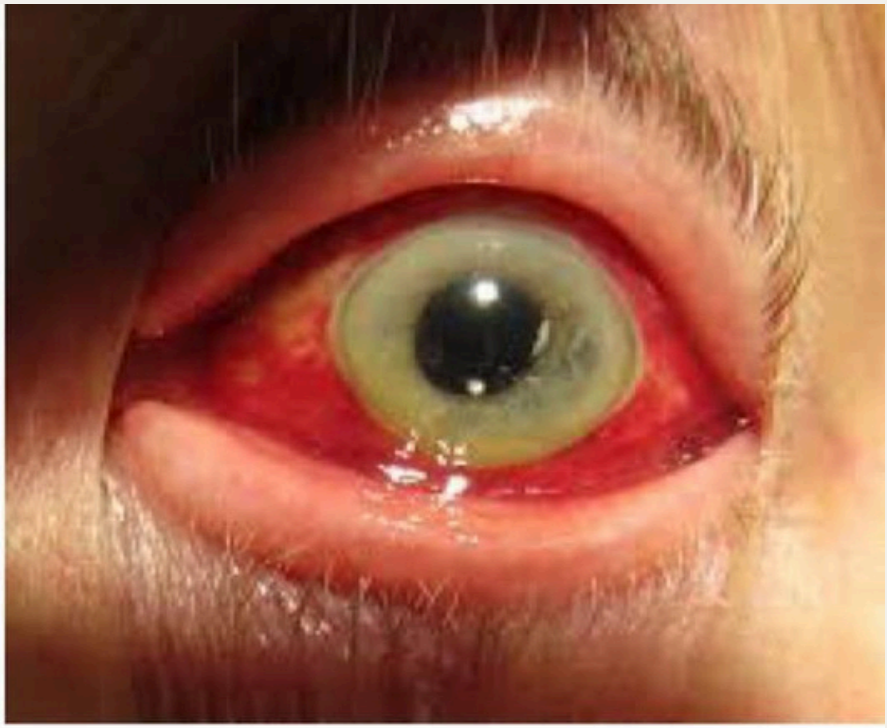
Conjuctival injection

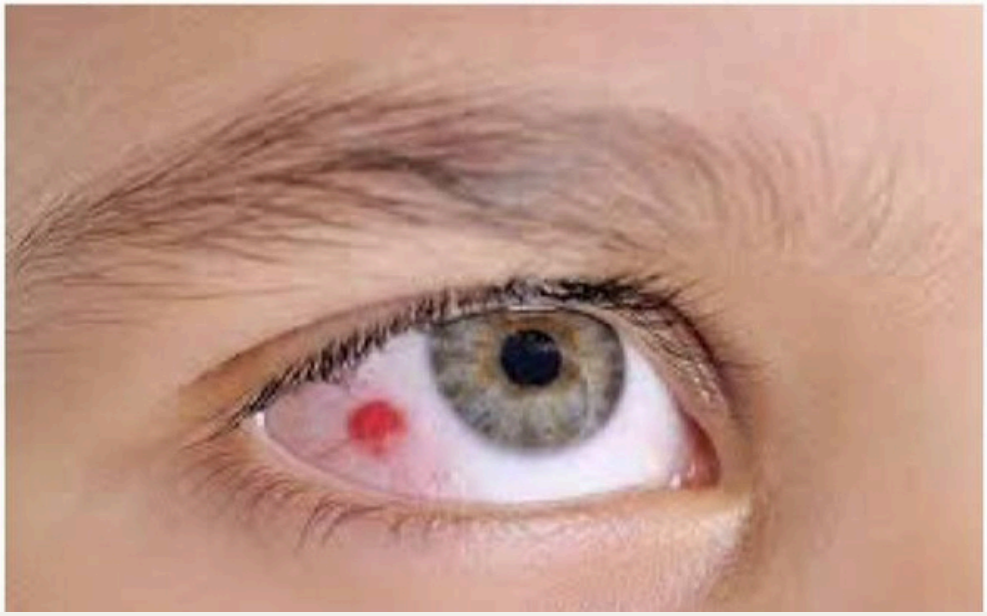
Torturous dilated blood vessel











Conjictival hemorrhage

Inflammatory diseases of the Conjunctiva

1. Bacterial : Simple bacterial conjunctivitis , Gonococcal keratoconjunctivitis
2. Viral : (Adenoviral keratoconjunctivitis)
3. Chlamydial : Adult chlamydial keratoconjunctivitis , Neonatal chlamydial conjunctivitis , Trachoma
4. Allergic conjunctivitis.

Bacterial Conjunctivitis

- **Presentation with :**

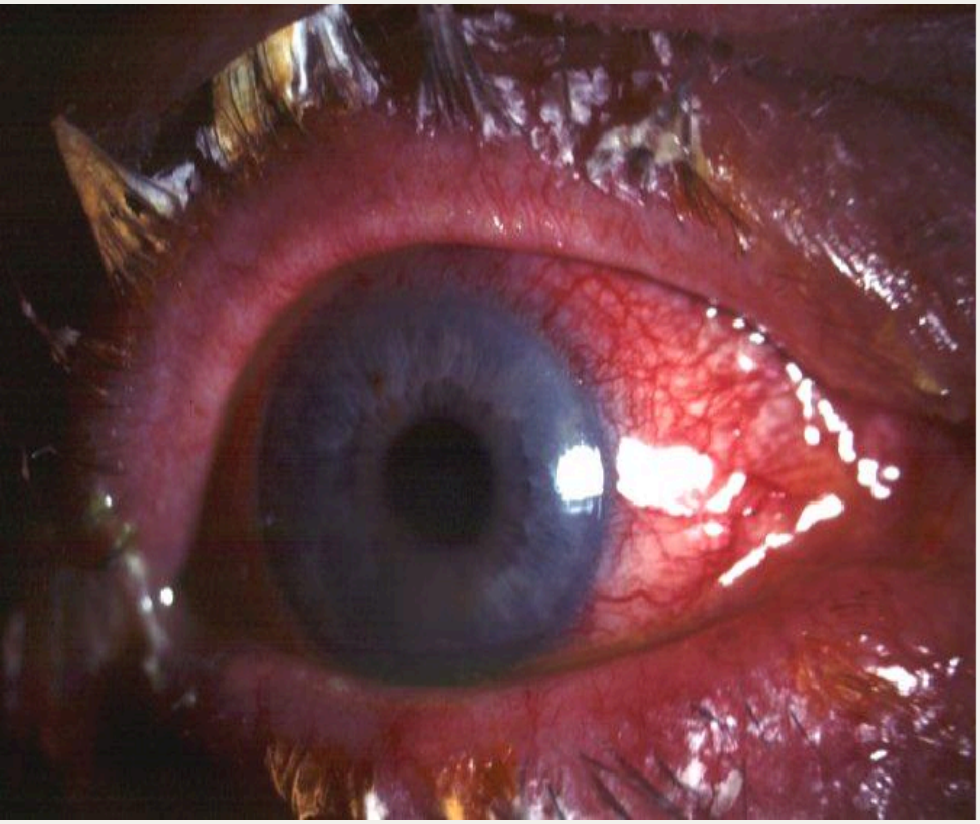
Redness of the eye , Discharge ,Ocular Irritation

- **Commonest microorganism :**

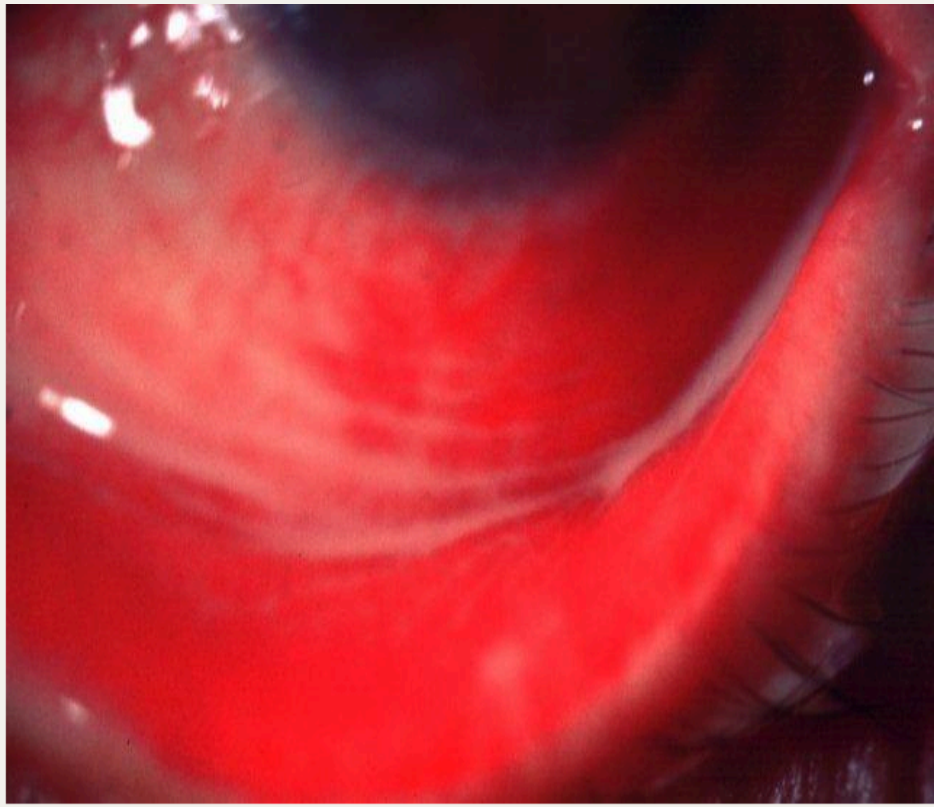
Staphylococcus , Streptococcus and Haemophilus

- Usually self limited
- Antibiotics may be needed : topical or systemic.
- Culture & sensitivity may be needed in sever cases or if the condition fails to resolve

Simple bacterial conjunctivitis



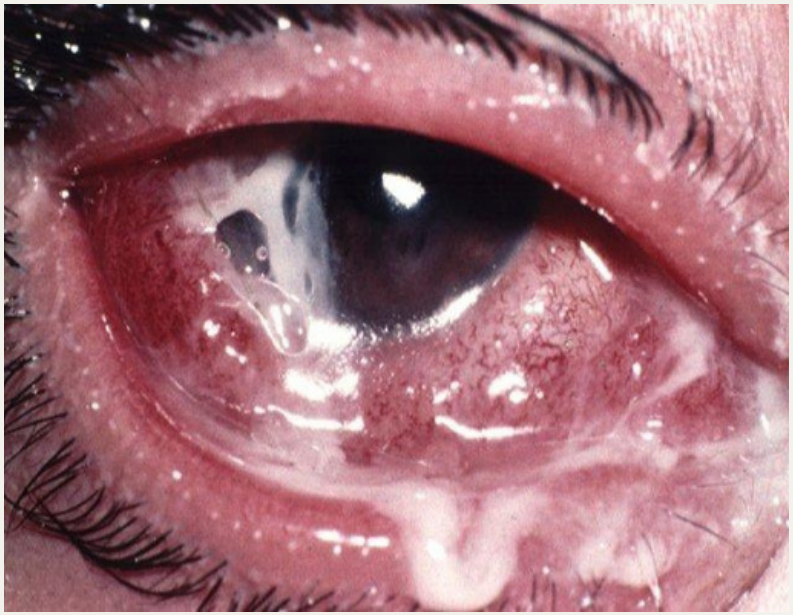
Crusted eyelids and conjunctival injection



Subacute onset of mucopurulent discharge

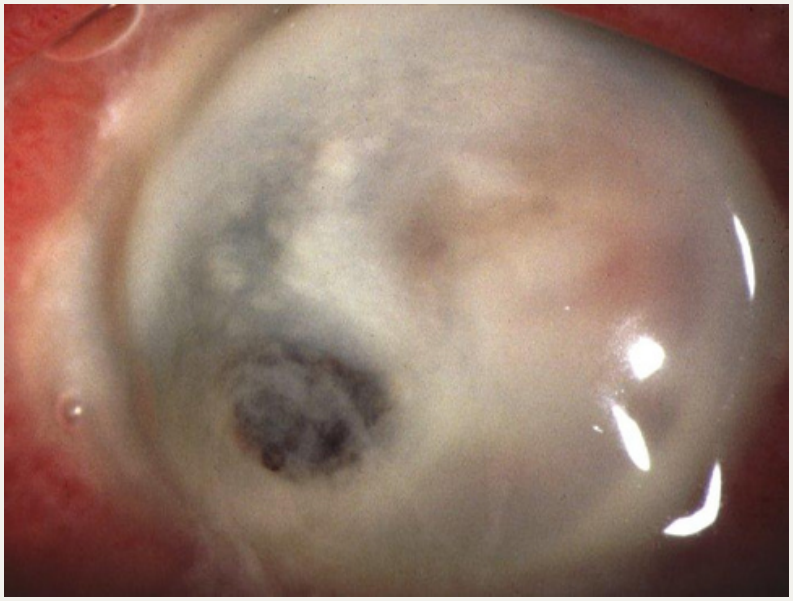
Gonococcal keratoconjunctivitis

sign



Acute, profuse, purulent discharge,
Hyperaemia and chemosis

complication



Corneal ulceration, perforation
and endophthalmitis if severe

Topical gentamicin and bacitracin Intravenous cefoxitinor cefotaxime

Viral Conjunctivitis

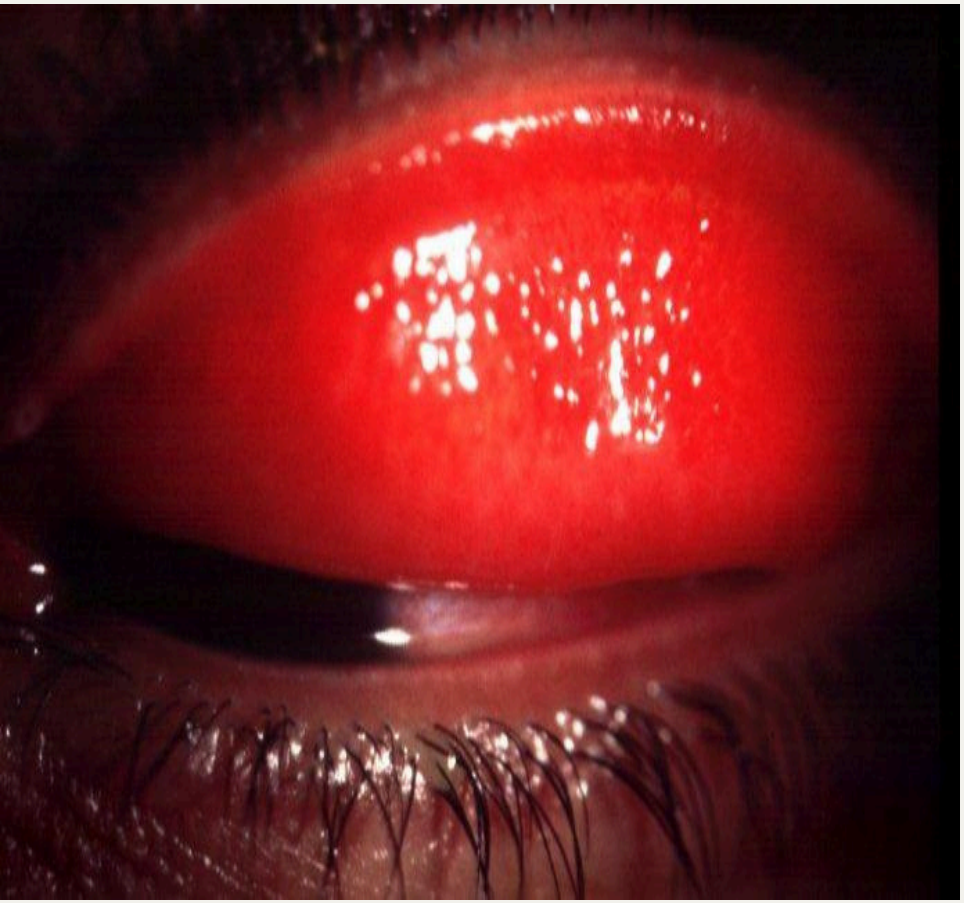
Differs from the bacterial conjunctivitis in the following :

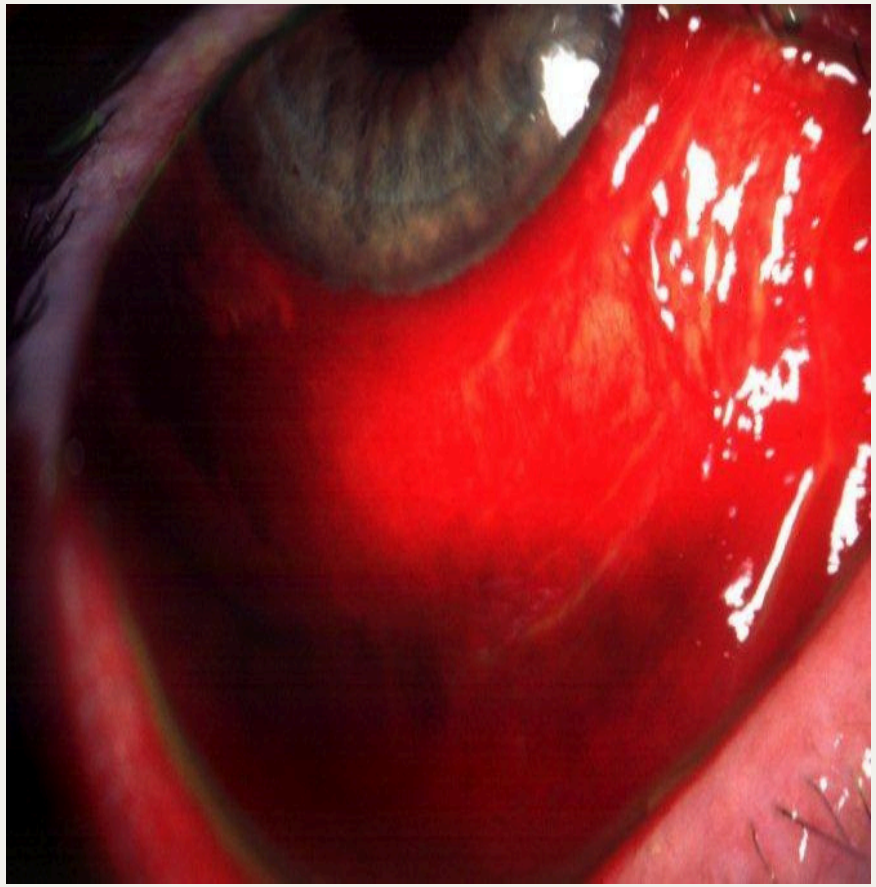
1. Watery discharge
2. Conjunctival follicles
3. Lid edema
4. Lacrimation

- Highly contagious
- Self limited
- Can cause membranous conjunctivitis
- **Causative viruses : Adenoviral (the commonest) , Coxsackie, Picornaviruses**

Adenoviral conjunctivitis

- Non-specific acute follicular conjunctivitis: most common.
- Chronic (relapsing) adenoviral conjunctivitis: rare but may persist for years.





- **Usually bilateral, acute watery discharge and follicles**

- Subconjunctival haemorrhages and pseudomembranes if severe

Viral Conjunctivitis treatment

- Good hygiene (separate towels)
- Symptomatic treatment for irritation
- AB if bacterial conjunctivitis develops.
- Topical steroid may be used if there is corneal involvement.

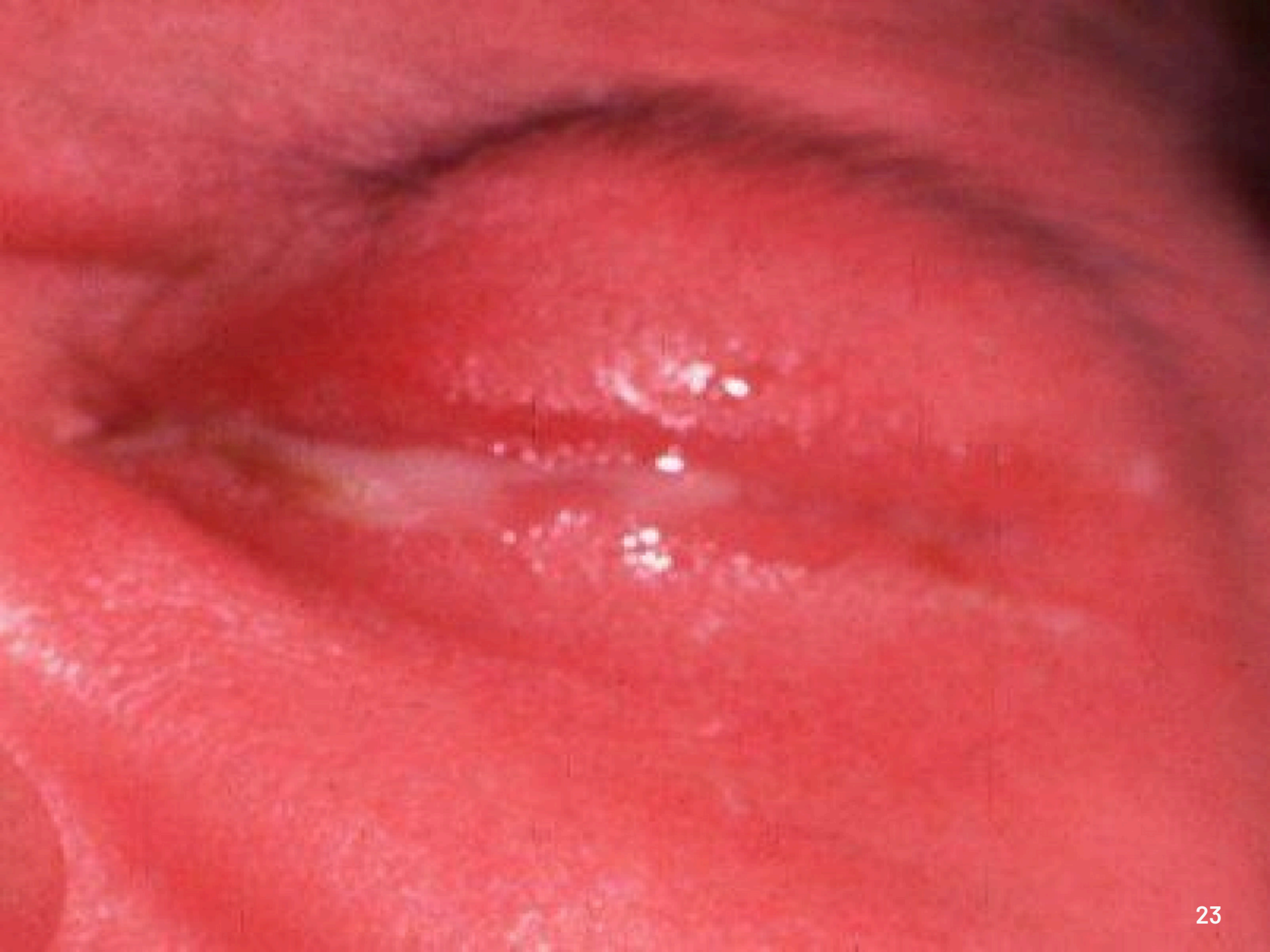
Ophthalmia neonatorum

- Any conjunctivitis within the first 4weeks of life
- It is a notifiable disease
- Swaps are mandatory
- **Causes:**

First 2 days = chemical cause

3-5 days =gonorrhea

more than 5 days=chlamydia



Ophthalmia neonatorum causative microorganisms

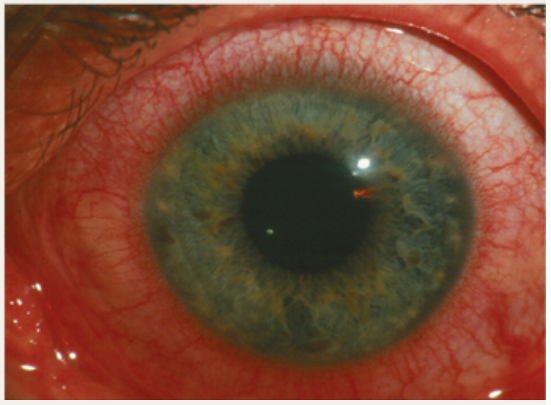
- Bacterial conjuctivitis (usually gram +ve)
- Niesseria Gonorrhea
- Herpes simplex virus
- Chlamydia : causing chronic conjunctivitis and forming a sight threatening complication in the form of corneal scaring

Ophthalmia neonatorum
Treatment

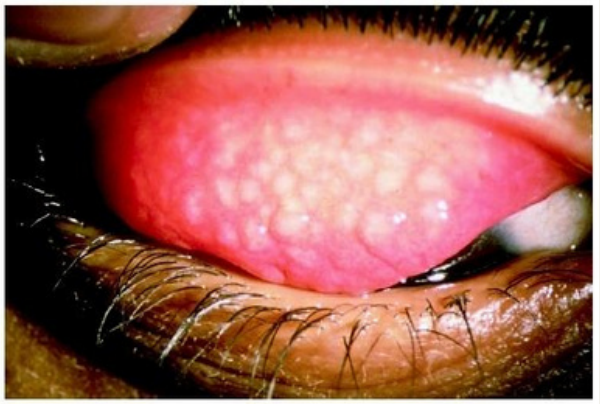
- **Neisseria : topical and systemic penicillin**
- **HSV : topical antiviral**
- **Chlamydia : topical tetracycline and systemic Erythromycin**

Chlamydial infections

- It is an obligate intracellular organism, has different serotypes
- Two forms of ocular infections :
  1. Adult Inclusion Keratoconjunctivitis
  2. Trachoma



Inclusion conjunctivitis

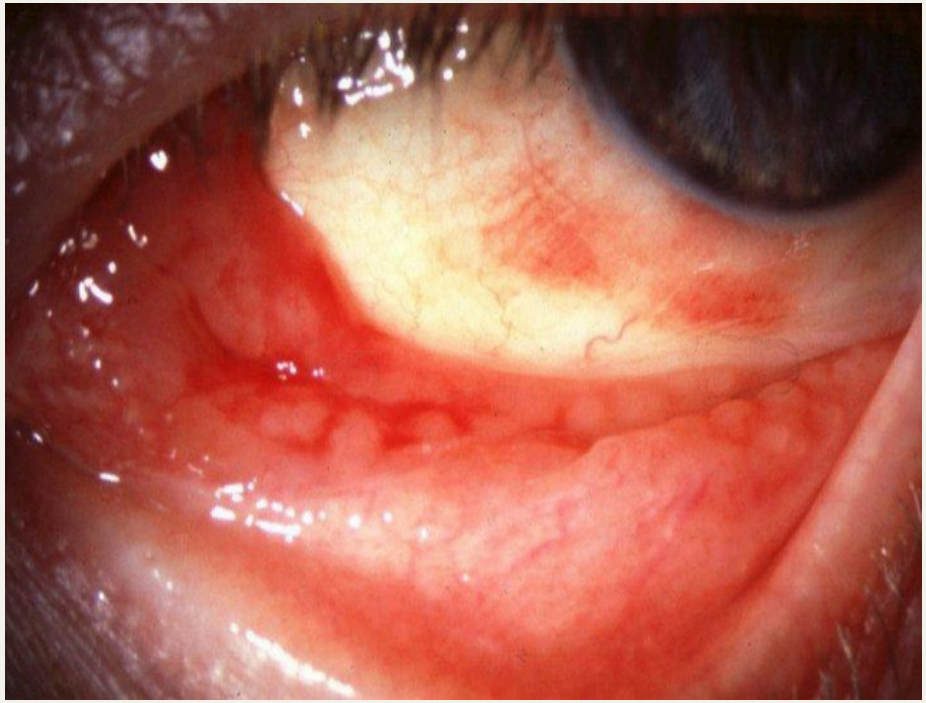


Trachoma

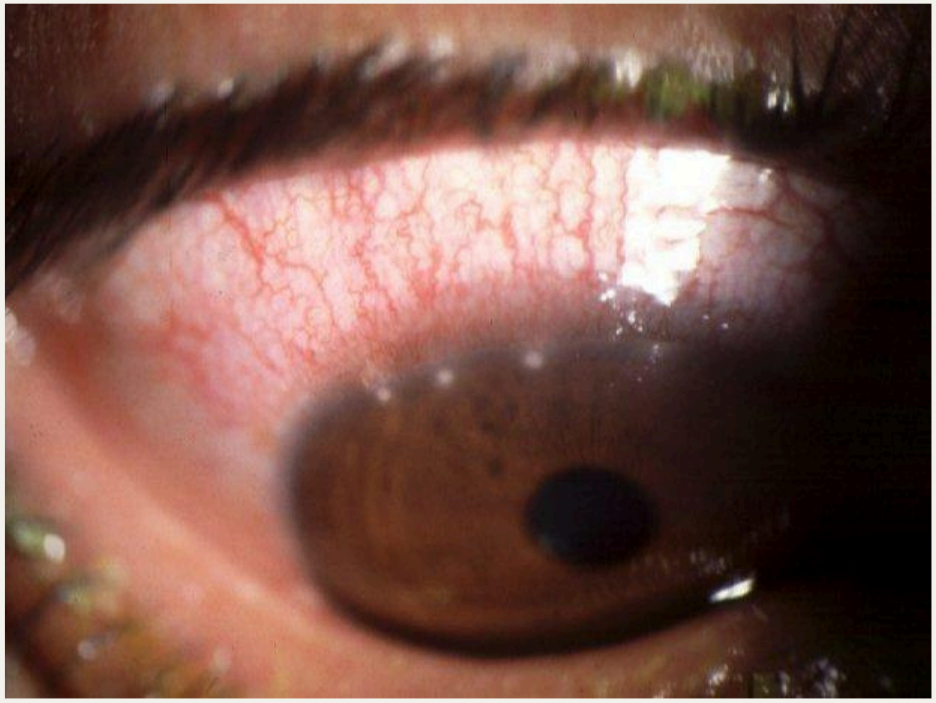
Adult Inclusion Keratoconjunctivitis

- Is a STD (sexually transmitted disease)
- Chronic course (up to 18 months) unless treated
- Present with :
  - hyperemia
  - mucopurulent follicular conjunctivitis
  - developed Micropannus (Superficial peripheral Corneal vascularization and scarring)
  - Subepithelial scarring
  - Urethritis or Cervicitis is common

Adult chlamydial keratoconjunctivitis



Subacute, mucopurulent follicular conjunctivitis



Variable peripheral keratitis

Adult Inclusion Keratoconjunctivitis Diagnosis &Treatment

Diagnosis :

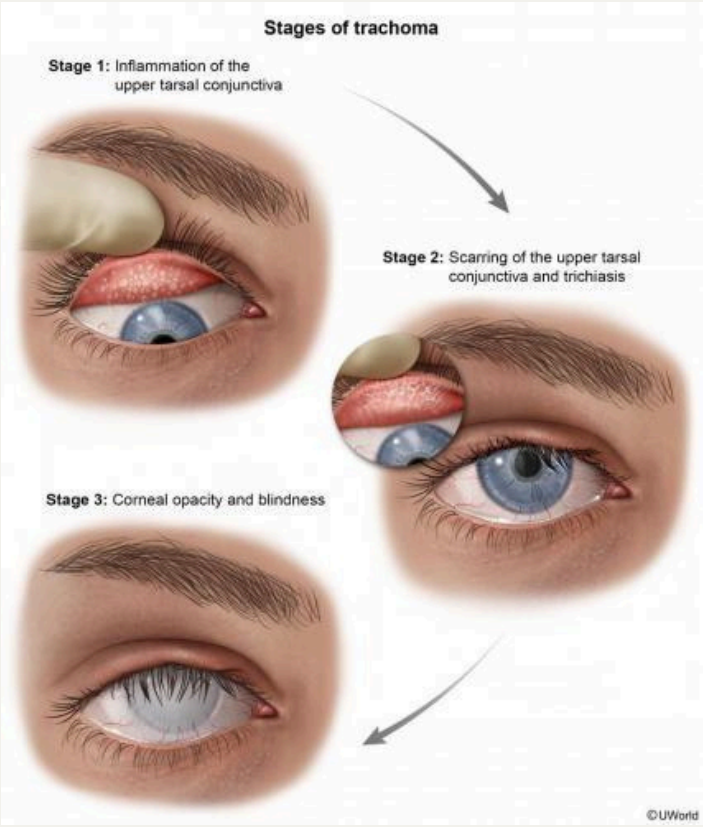
- Direct Immunofluorescence to detect chlamydial antigens
- Giemsa-staining In conjunctival swab to identificate typical Inclusion bodies

Treatment :

- Azithromycin 1g repeated after one week.
- Topical & systemic Tetracycline or erythromycin

Trachoma

- The commonest infective cause of blindness in the world
- Transmitted by the housefly which act as a vector
- Encouraged by Poor hygiene, overcrowding in a dry, hot climate.



The hallmark of the disease is :

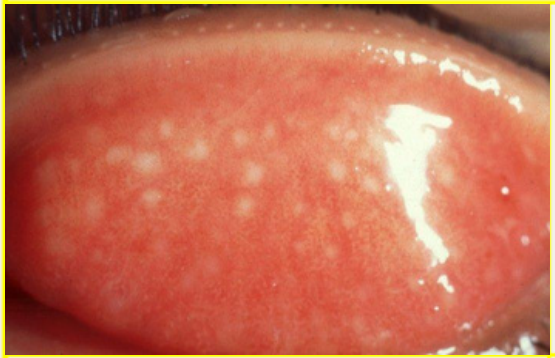
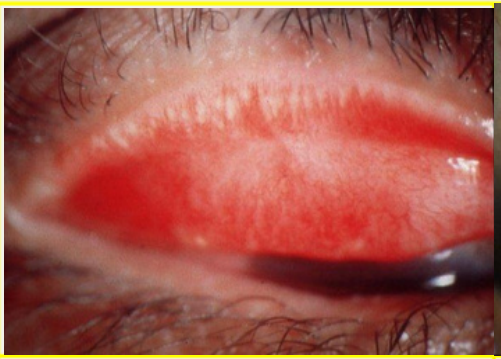
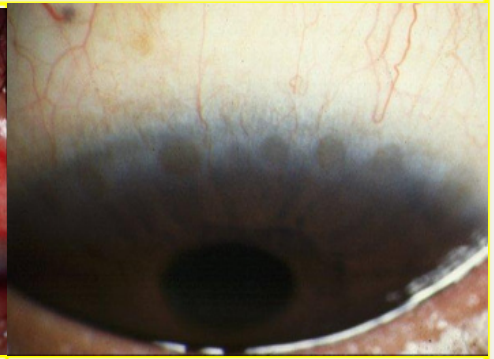
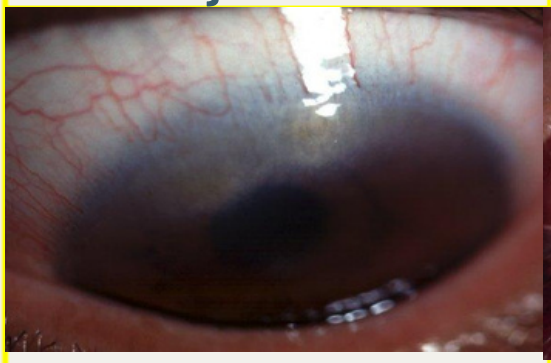
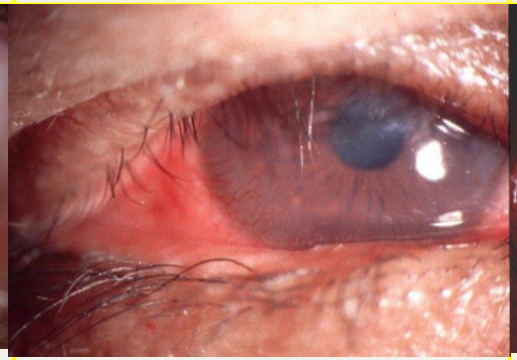
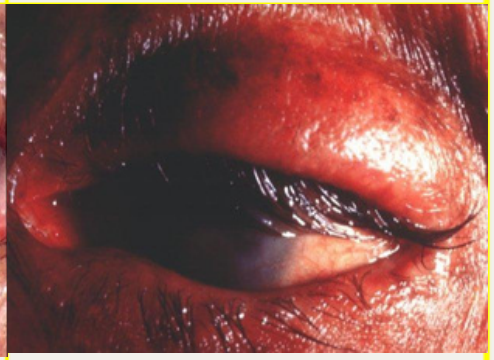
Recurrent sub conjunctival fibrosis (due to frequent re-infections)

- Blindness may occur due to corneal scarring from recurrent Keratitis and Trichiasis

Treatment :

Topical and systemic Tetracycline or Erythromycin .
Azithromycin is an alternative, requires only a single oral dose
Surgical correction required for trichiasis and entropion .

Trachoma

Findings in trachoma		
		
Acute follicular conjunctivis	Conjunctival scarring (Arlt line)	Herbert pits
		
Pannus formation	Trichiasis	Cicatricial entropion

Allergic Conjunctivitis

This may be divided into acute and chronic forms:

1. Acute(hay fever or seasonal) :
Acute IgE mediated reaction to mostly airborne allergens .

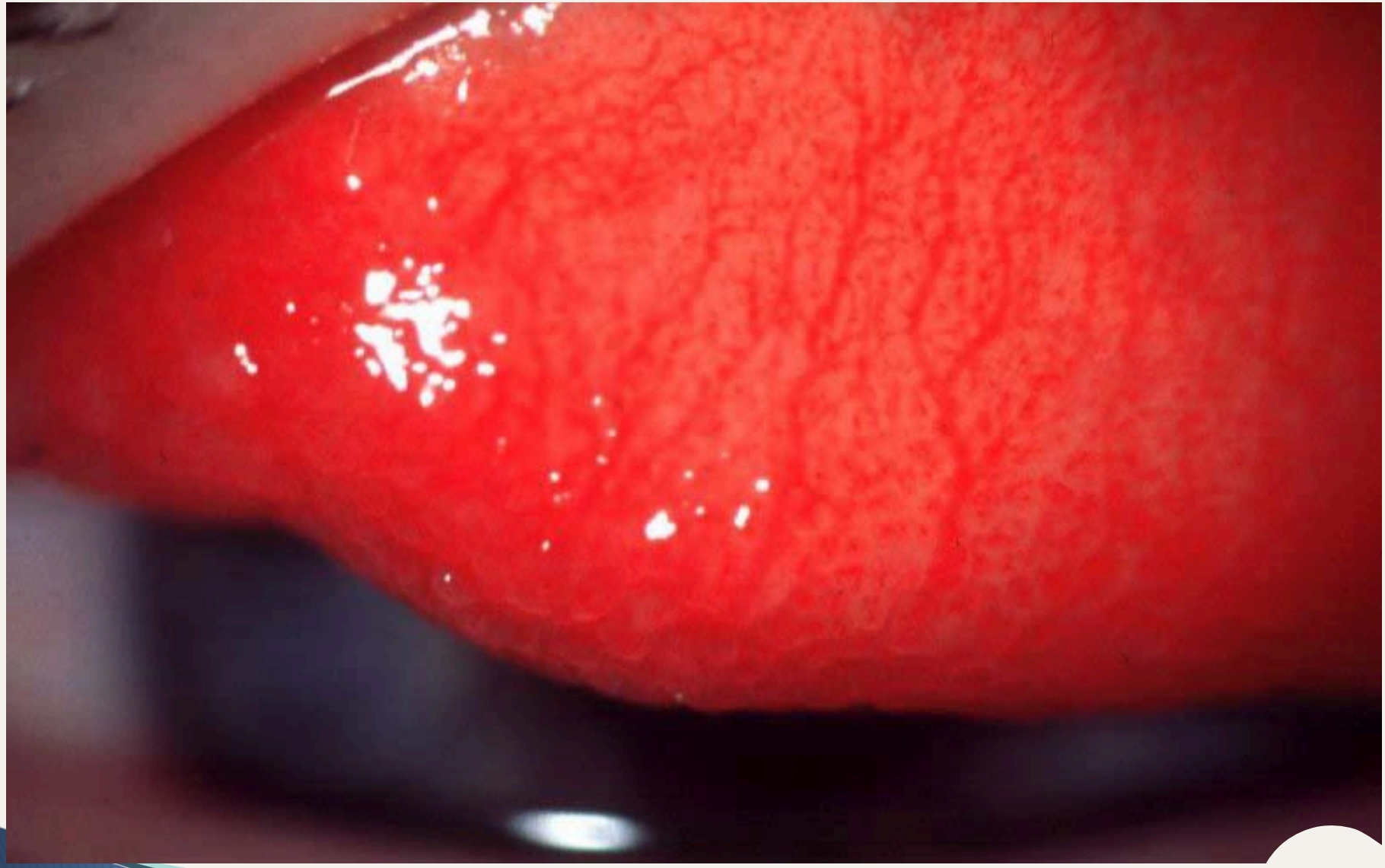
Presented with:

Itching

Conjunctival injection and swelling (chemosis

Lacrimation

rhinitis

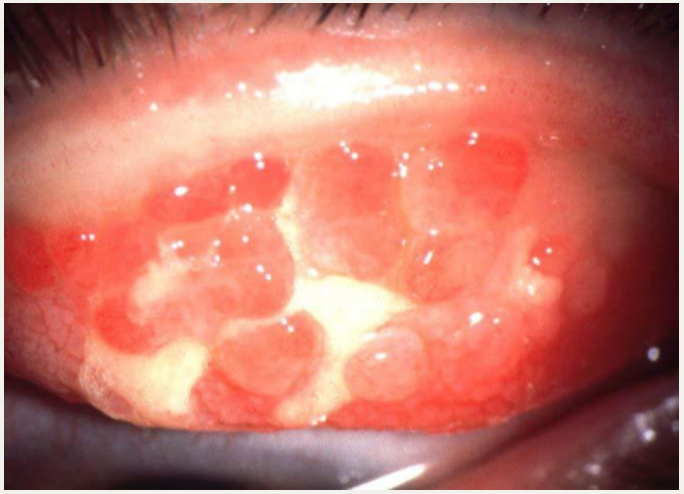


Allergic Conjunctivitis

2. Vernal conjunctivitis (Spring catarrh)
   - IgE mediated allergic reaction .
   - often affects male children with a history of Atopy
   - It's seasonal but may be present all year long and become a chronic and intractable disease.

- Could be: palpebral, limbal or mixed.

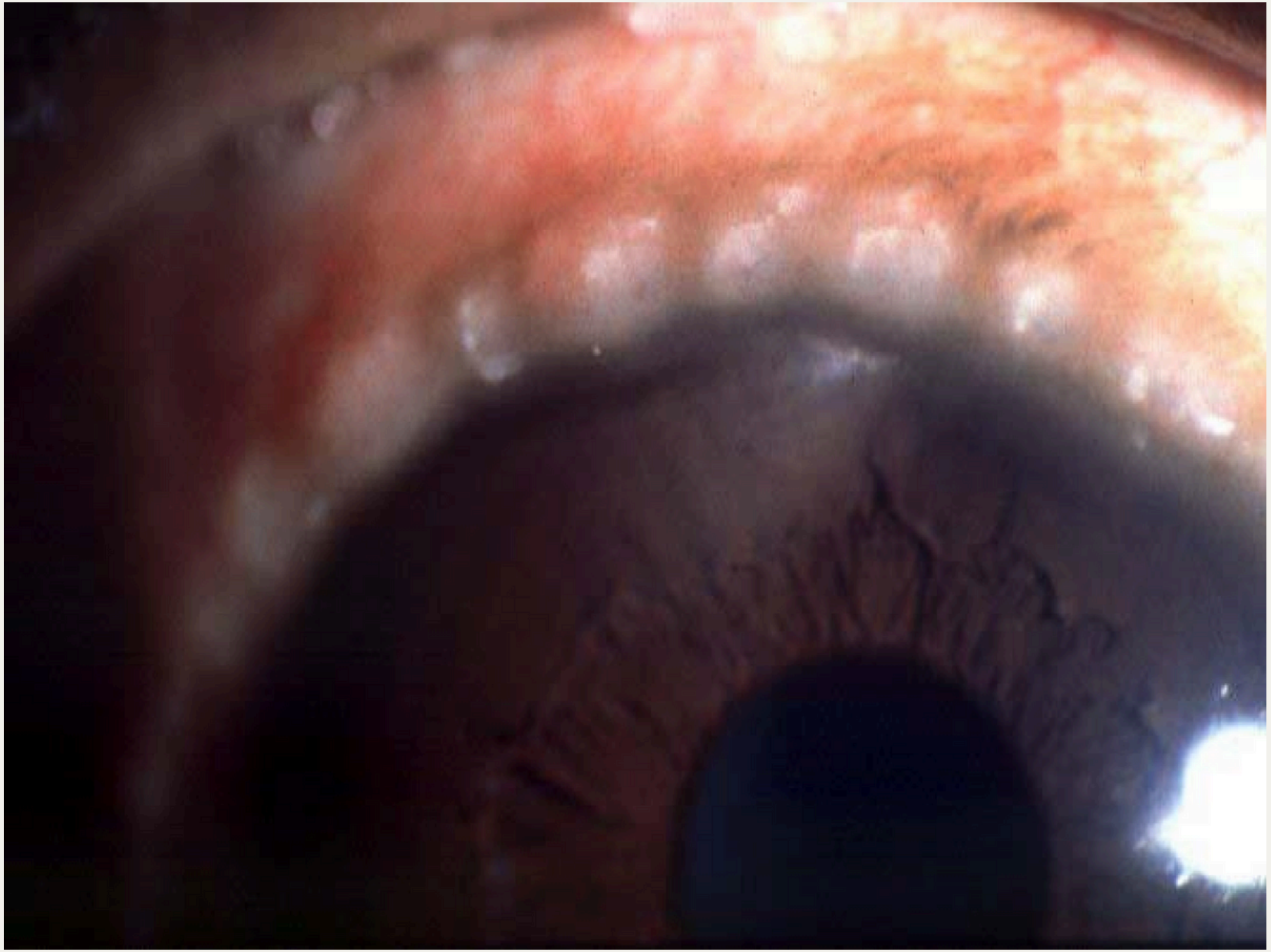
Vernal conjunctivitis



- **Symptoms:** Itching
  Photophobia
  Lacrimation

- **Signs: depend on the type:**

  Papillary conjunctivitis on the upper tarsal plate.
  Giant papillary reaction (cobblestones).
  Limbal follicles (Horner-Trantas dots).
  Punctate corneal white lesions.
  oval plaques in severe disease replaces upper corneal epithelium .



Limbal follicles and white spots (Horner-Trantas dots).

Allergic Conjunctivitis treatment

- **Mast cell stabilizers :** Na-Cromoglycate, nedochromil Lodoxamide
- **Anti histamines:** levocabastine
- **Combining mast cell stabilizing and antihistamine** olopatidine
- **Topical steroids may be needed** but long term avoided
- **Mucolytics (acetlycysteine) :** help dissolve the corneal plaque but surgery may be required

Contact lenses induced conjunctivitis

Contact lens wearers may develop an allergic reaction to their lenses or to lens cleaning materials, leading to a giant papillary conjunctivitis (GPC) with a mucoid discharge .

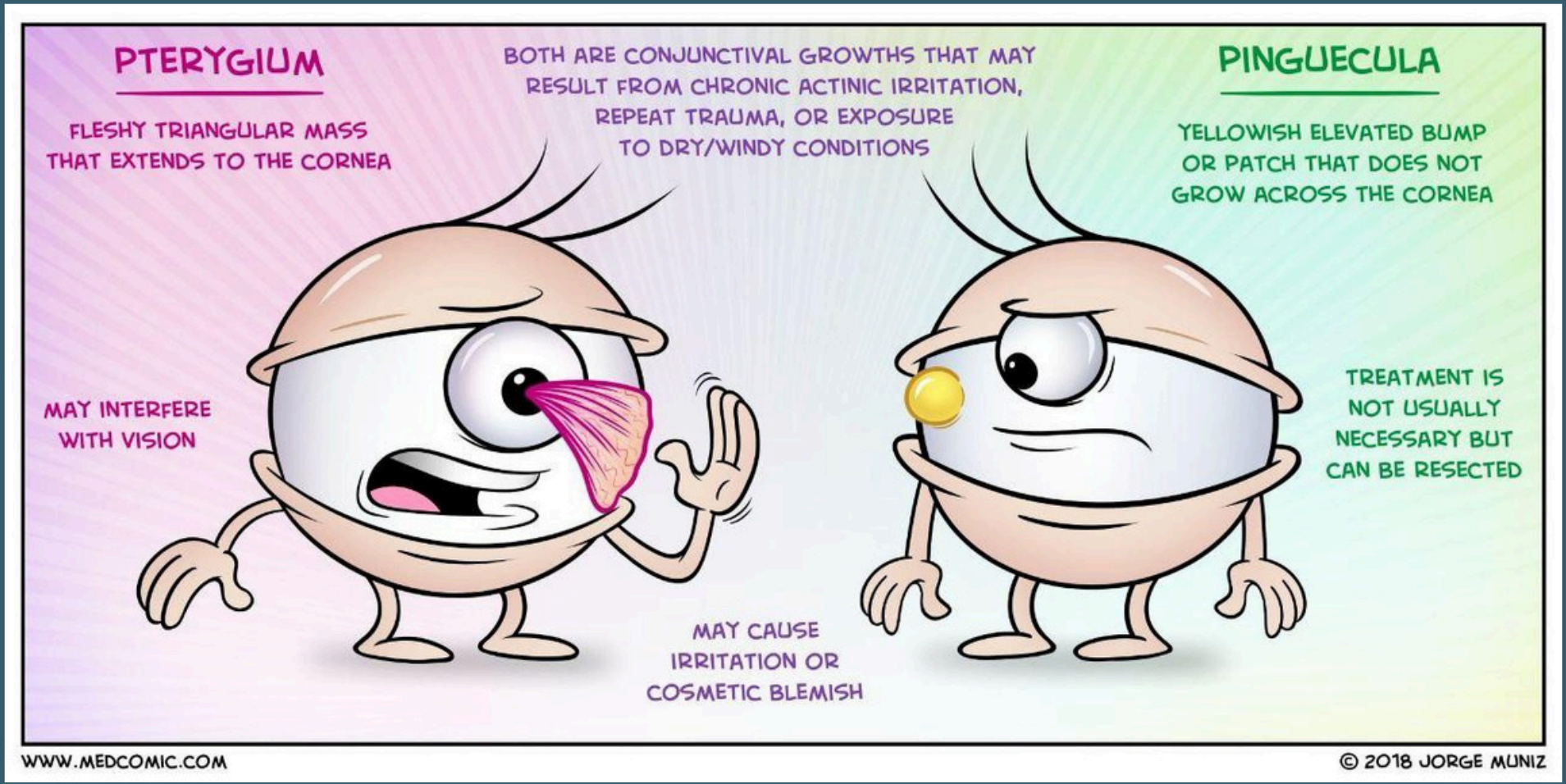
Whilst this may respond to topical treatment

Mast cell stabilizers.

it is often necessary to stop lens wear for a period,

or even permanently if symptoms recur

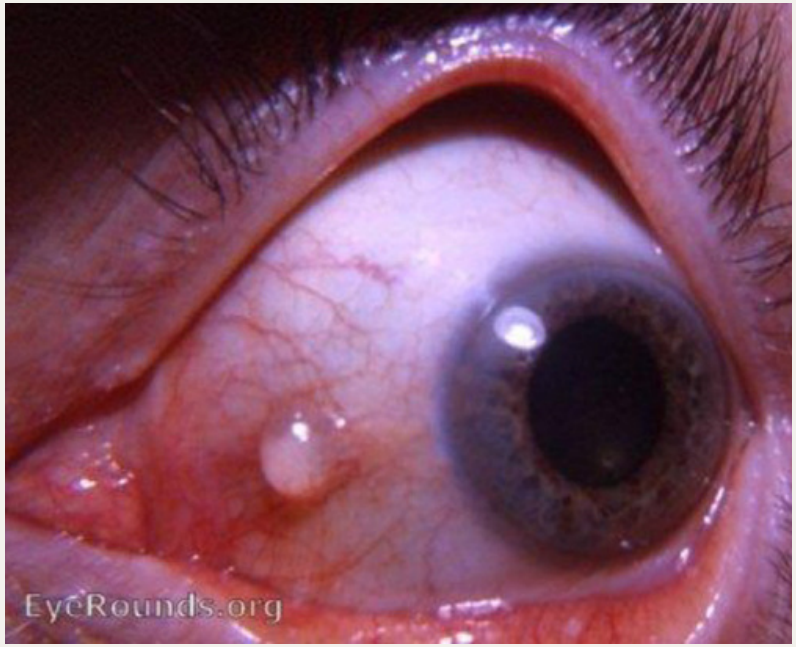
Conjunctival degenerations



Conjunctival degenerations

- **Cysts** are **common** in the conjunctiva.
  They rarely cause symptoms, but if necessary can be removed.

- Pingueculae and pterygia are found on the **interpalpebral bulbar conjunctiva**.

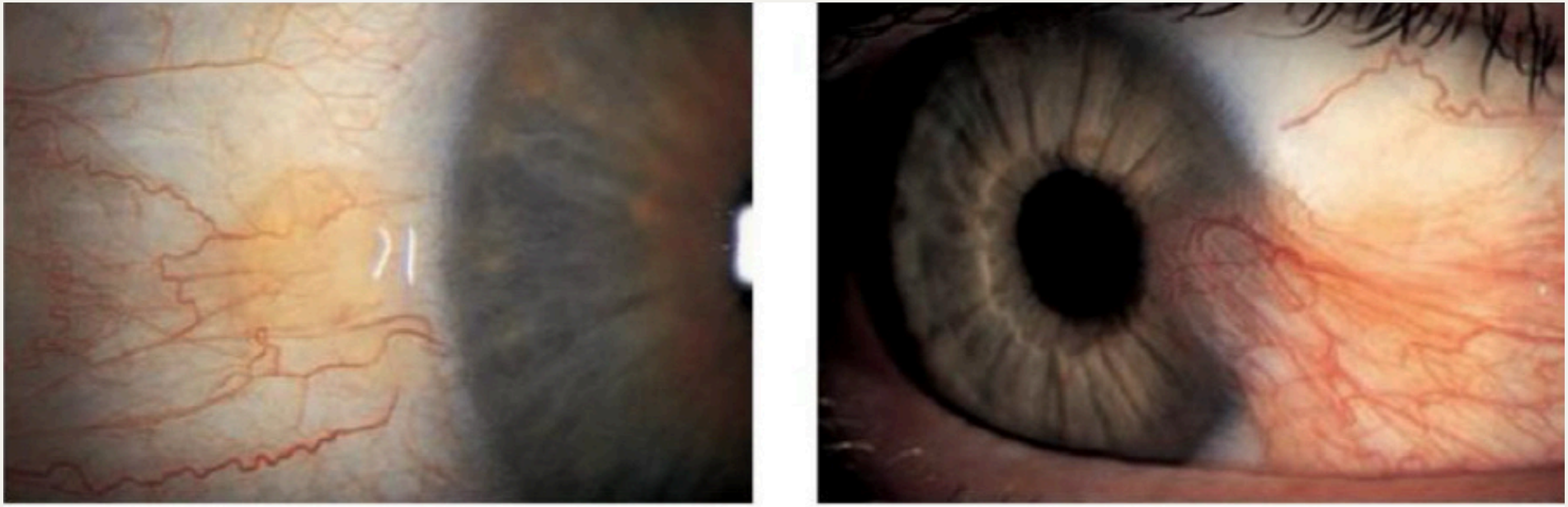


- They are thought to result from **excessive exposure to the reflected or direct ultraviolet component of sunlight.**

- Histologically the **collagen** structure is altered.

Conjunctival degeneration

- Pinguecula are small, elevated yellowish paralimbal lesions that never impinge on the corea.
- Pterygia are wing – shaped and located nasally, with the apex towards the cornea, onto which they progressively extend.
  They may cause irritation and, if extensive, may encroach onto the visual axis. They can be excised but may recur.



(a) (b)

Figure 7.5 The clinical appearance of (a) a pinguecula; (b) a pterygium.

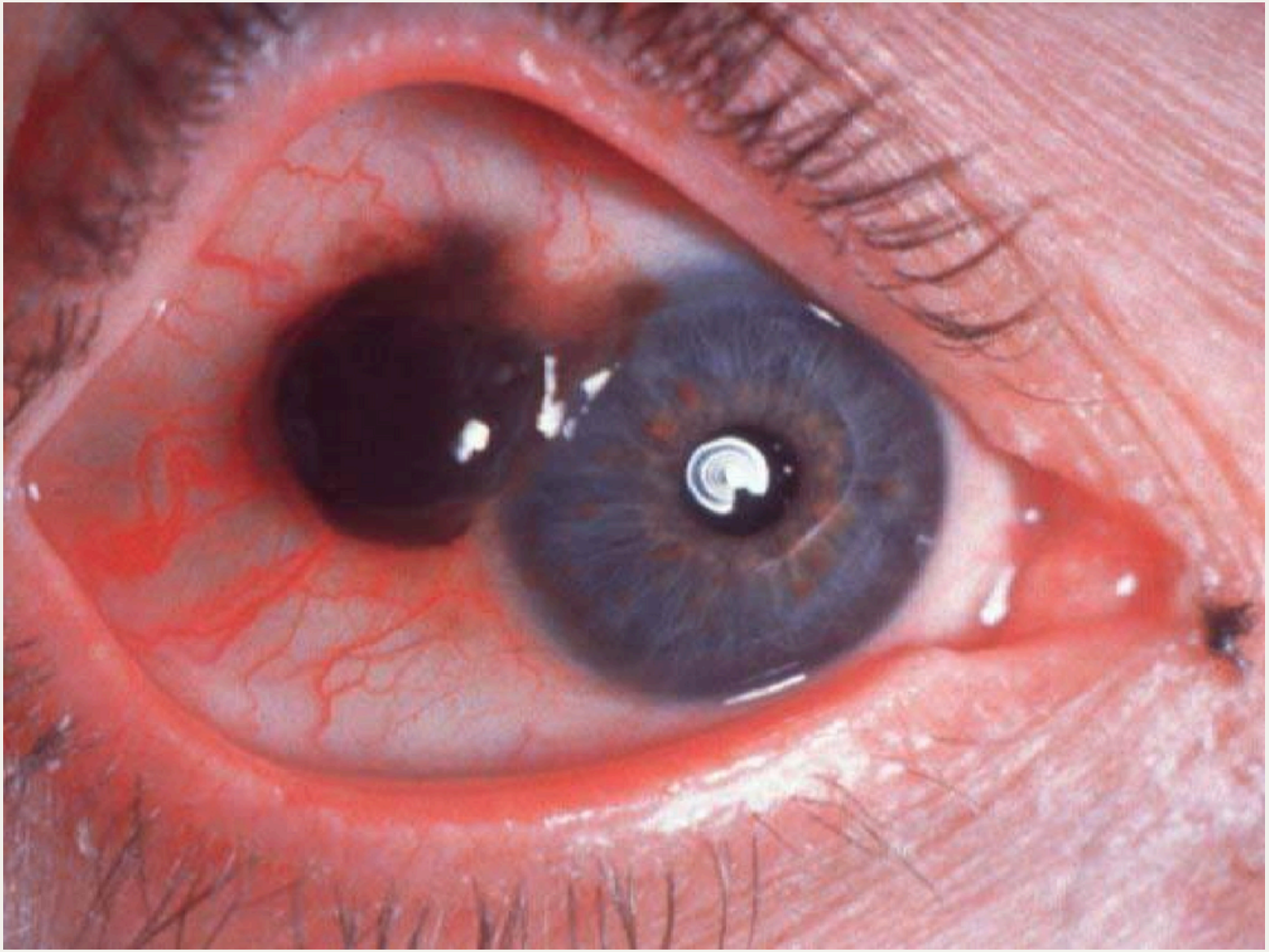
Conjunctival tumours

- **These are rare. They include:**
  - **Squamous cell carcinoma**:

    An irregular raised area ofconjunctiva which may invade the deeper tissues.
  - **Malignant melanoma**:

    The differential diagnosis from benign pigmented lesions (for example a naevus or melanosis) may be difficult.

- **Review is necessary to** assess whether the lesion is **increasing in size, change in color or vascularity**
- **Biopsy, to achieve a definitive diagnosis.**



Treatment may involve : Excision, Cryotherapy, mitomycin C, radiotherapy and exenteration

MCQs

Which one of the following conditions is most likely to be associated with intense ocular itching: Select one:
A. Episcleritis
B. Scleritis
C. Cataract
D. Spring catarrh
E. Mild mucopurulent conjunctivitis

The pathogenic features of trachoma include all of the following signs, Except,
select one:
A. Conjunctival follicles
B. Corneal pannus
C. Herbert pits
D. Conjunctival scarring
E. Conjunctival Papillae

True membranous conjunctivitis is usually caused by:
A. Adenovirus
B. Trachoma
C. Morax-Axenfeld bacillus
D. Diphtheria
E. Molluscum contagiosum virus

MCQs

Herbert's pits are seen in which one of the following:
A. Ophthalmia neonatorum
B. Trachoma
C. Herpetic conjunctivitis
D. Spring Catarrh
E. Adenoviral conjunctivitis

One of the following the least to cause bilateral conjunctivitis is:
A. Bacterial
B. Vernal
C. Contact dermatitis
D. Viral
E. Atopic conjunctivitis

Rounded, depressed regions of necrotic limbal follicles are termed:
A. Herbert's pits
B. Von Arlet's line
C. Fuch's spots
D. Horner-Trantas dots
E. Cogan's patches

Conjunctivitis subtypes

Overview of conjunctivitis subtypes in children and adults [1][2][3]

	Viral conjunctivitis	Bacterial conjunctivitis			Allergic conjunctivitis [1][4]
		Acute bacterial conjunctivitis	Gonococcal conjunctivitis [5]	Trachoma	
Etiology	• **Adenoviruses** (most common) • HSV • **VZV**	• Streptococcus pneumoniae and Haemophilus influenzae (most common in children) • Staphylococcus aureus (most common in adults)	• Neisseria gonorrhoeae	• Chlamydia trachomatis serotypes A–C	• **IgE-mediated hypersensitivity reaction** (type I) against specific allergens

Clinical features	• Unilateral or bilateral [2]
	• Clear, watery discharge (with mucoid component)
	• Increased lacrimation (epiphora)
	• Extraocular signs of viral infections (e.g., upper respiratory symptoms, preauricular lymphadenopathy)
		• Typically unilateral but may be bilateral
		• Thick mucopurulent discharge
		• Difficulty opening eyes in the morning
			• Unilateral or bilateral
			• Hyperacute conjunctivitis
			  ◦ Marked eye swelling
			  ◦ Profuse purulent discharge
			• Preauricular lymphadenopathy
			• Possibly, corneal infiltrates or ulcers
			• May be accompanied by urogenital infection
				• Unilateral or bilateral
				• Often chronic infection
				• Active phase
				  ◦ Conjunctival follicles
				  ◦ Inflamed upper tarsal conjunctiva
				• **Cicatricial phase**
				  ◦ **Conjunctival scarring**
				  ◦ Corneal ulcers and opacities
				  ◦ Superficial neovascularization with cellular infiltration (corneal pannus)
				  ◦ Entropion
				  ◦ Trichiasis
					• **Bilateral**
					• **Itching**
					• Conjunctival injection
					• Discharge and crust formation
					• Chemosis
					• Burning or foreign-body sensation

Diagnostics	• Clinical diagnosis (often supported by a history of upper respiratory infection)	• Clinical diagnosis • Obtain conjunctival scrapings and culture (or PCR) in patients with risk factors for severe and/or complicated disease.	• Gram stain: intracellular gram-negative diplococci • Culture: N. gonorrhoeae	• Clinical diagnosis	• Clinical diagnosis • Allergy testing (e.g., skin prick test, conjunctival allergen challenge) can confirm the diagnosis.
Management	• Most patients: symptomatic therapy (self-limiting condition) • Herpes simplex conjunctivitis: topical and/or systemic antivirals	• Usually self-limiting • Provide symptomatic and supportive therapy • Consider topical broad-spectrum antibiotics (e.g., erythromycin or trimethoprim/polymyxin B).	• IV or IM ceftriaxone • Consider the addition of oral azithromycin or doxycycline. • Saline lavage	• Drug of choice: **single oral dose azithromycin** • Alternative (topical or systemic): tetracycline or erythromycin	• Avoid exposure to known allergens. • Eye hygiene • Consider local antihistamines and mast-cell stabilizers (e.g., ketotifen). • Specialist management: corticosteroids, calcineurin inhibitors

Thank you