



ALLERGIC CONJUNCTIVITIS

Types

1- Acute allergic conjunctivitis

Seasonal allergic conjunctivitis (SAC)

Perennial allergic conjunctivitis (PAC)

2- Vernal keratoconjunctivitis (VKC)

3- Atopic keratoconjunctivitis (AKC)

4- Giant papillary conjunctivitis (GPC)

5- Phlyctenular keratoconjunctivitis (PKC)

6- Contact dermoconjunctivitis (CDC)

Acute Allergic Conjunctivitis

It is a mild, non-specific allergic conjunctivitis characterized by itching, hyperaemia and mild papillary response.

Etiology

1- *Seasonal allergic conjunctivitis. (Hay fever)*
is a response to seasonal allergens such as tree and grass pollens. It is commonest form occurring during spring and summer.

2 - *Perennial allergic conjunctivitis*
is a response to perennial allergens such as house dust mite, animal dander and fungal allergens. It is less common and milder than Seasonal form occurring throughout the year with exacerbations in the autumn.

Clinical picture

Symptoms

Include transient , acute attacks of redness, **intense Itching**, burning sensation and watering in the eyes associated with sneezing and nasal discharge.

Signs

Hyperaemia and chemosis.

Mild papillary reaction.

Lid oedema







Treatment

1- Elimination of allergens if possible.

2-mast cell stabilizers

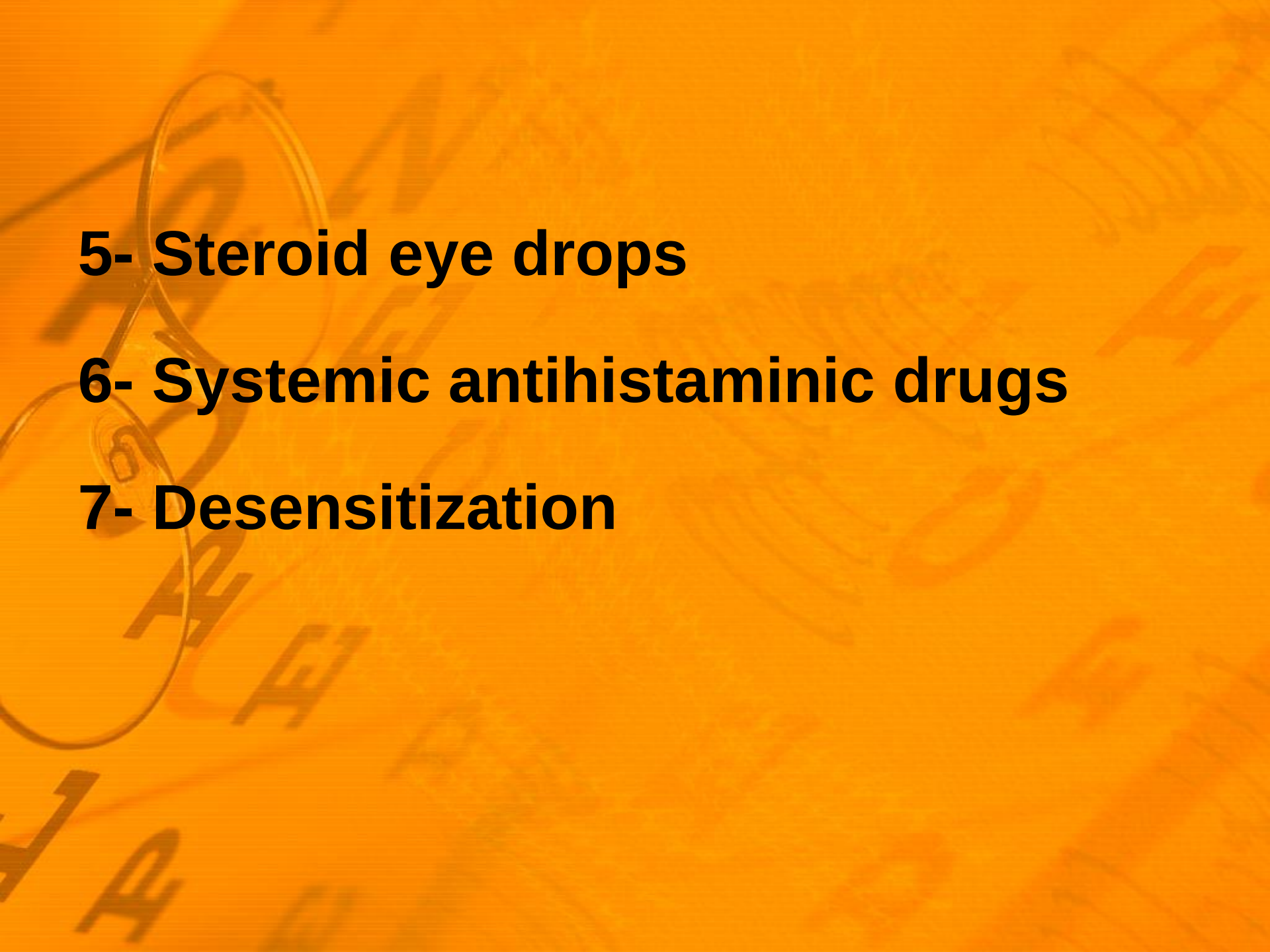
Sodium cromoglycate, nedocromil and
lodoxamide

3- Antihistamine

Levocabastine, emadastine and epinastine

4- combined Antihistamine and mast cell stabilizers

Olopatadine, ketotifen and azelastine



5- Steroid eye drops

6- Systemic antihistaminic drugs

7- Desensitization

PHLYCTENULAR CONJUNCTIVITIS

this is a **kerato-conjunctivitis** produced as an allergy to an endogenous agent.

ETIOLOGY

Causative allergens

It is type IV hypersensitivity reaction to endogenous microbial proteins. The endogenous toxin may be

- (1) Tuberculo-protein from TB focus.
- (2) Intestinal parasites.
- (3) Septic foci as tonsils and adenoids.
- (4) Secondary to staphylococcal blepharo-conjunctivitis

Predisposing factors

1. **Age.** Peak age group is 3-15 years.
2. **Sex.** Incidence is higher in girls than boys.
3. **malnourishment.** Disease is more common in undernourished children.
4. **Living conditions.** Overcrowded and unhygienic.
5. **Season.** It occurs in all climates but incidence is high in spring and summer seasons.

Clinical picture

Symptoms

mild discomfort in the eye, irritation and reflex watering. However, usually there is associated mucopurulent conjunctivitis due to secondary bacterial infection

Signs

*The characteristic lesion is the **phlycten**, which may affect any part of the conjunctiva or the cornea but the most common sites are the **limbus** and bulbar conjunctiva.*

1- Around nodule 1-3 mm in size.

2- solitary nodule but at times there may be two nodules or multiple phlyctens which may be arranged haphazardly or in the form of a ring around the limbus.

3- pinkish white nodule surrounded by hyperaemia on the bulbar conjunctiva, usually near the limbus

4- The epithelium first intact but later ulcerates and secondary staphylococcal infection takes place. Healing occurs rapidly without any scar





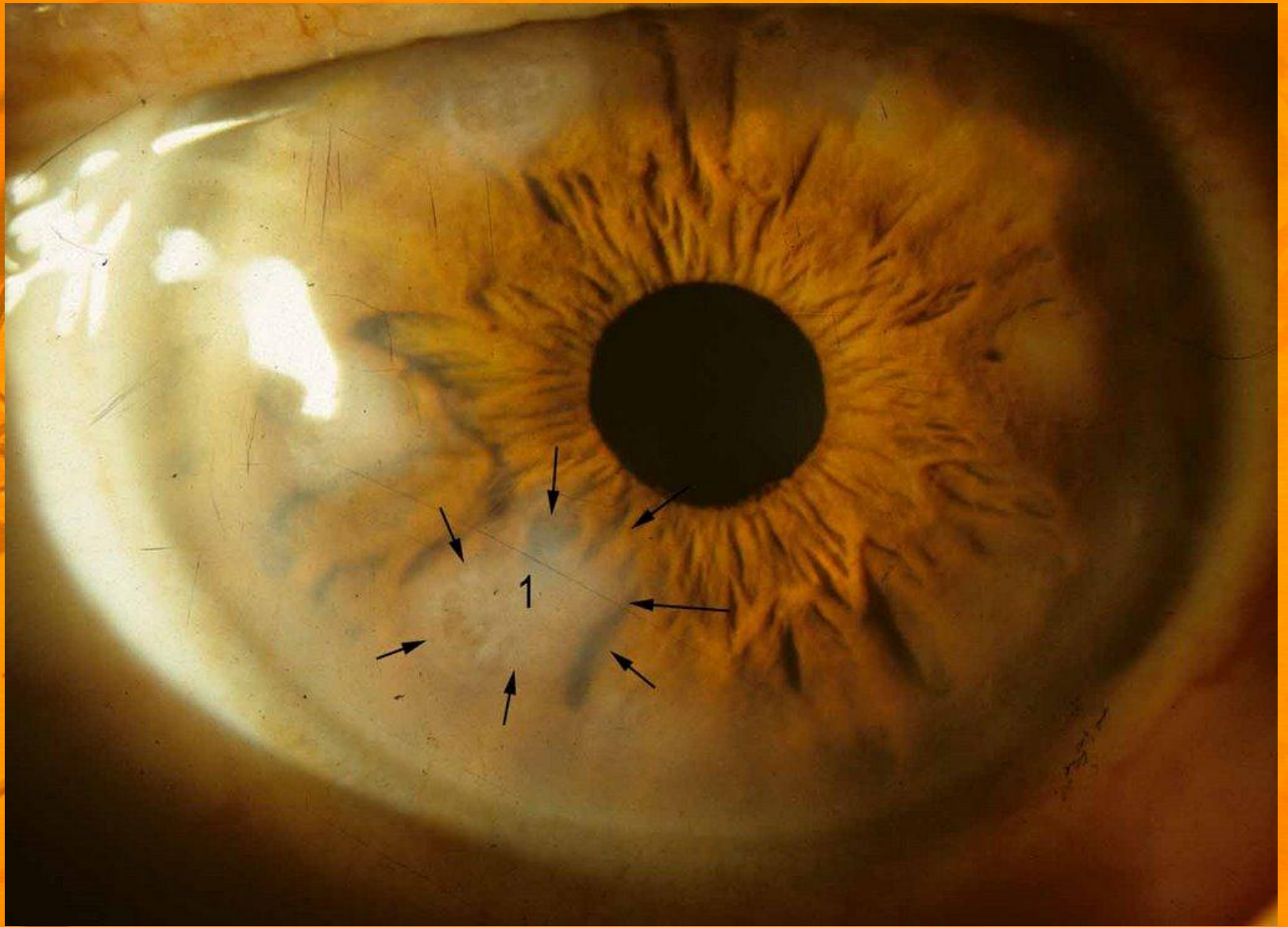
COMPLICATIONS

A) Corneal phlycten

may occur deep or superficial to B.M. It may ulcerate causing phlyctenular ulcer or vascularized causing Phlyctenular pannus.

B) Phlyctenular ulcers

- Limbal ulcer or multiple limbal ulcers: The latter may fuse to form a ring ulcer.
- **Fascicular ulcer**: is a superficial ulcer, which creeps over the cornea towards the centre and is supplied by a leash (bundle) of parallel vessels. When it heals, its track leaves opacity maximum where it stops.





C) Plyctenular pannus

is **vascularization + infiltration**. It differs from trachomatous pannus in the following:

- Affects any part of the limbus.
- Vessels are straight and lie deeper to B.M.
- Thin and very vascular with marked irritation.



	Phlycten	Pinguacula
- Age - Shape - Color - Site - Ulceration	Young Round Grey Anywhere Occurs	Old Triangular Yellow Nasal side Never ulcerates

	Phlycten	Episcleritis
- Age - Level - Color - Movement - Tenderness - Ulceration - Adrenalin test	-Children -Superficial -Grey -Moves with conjunctiva -Not tender -Ulceration occurs -Blanching (due to V.C of superficial Bl. Vessels)	-Older -Deep -Purple -Fixed to sclera (conj. Moves over it) -Tender -Never ulcerate -No Blanching (deep vessels)

	Phlycten	Limbal spring catarrh
- Season - Itching - Lesion - Ulceration - Discharge	-Any -Absent -Nodular -Common -No Eosinophils	-Summer -Marked -Gelatinous masses -Absent -Present

TREATMENT

Local treatment

- Topical **streoids** drops and ointment.
- **Antibiotic** drops and ointment
- **Atropine** is used if the cornea is involved.

General treatment

- Treatment of T.B.
- Eradication of septic foci like tonsilitis.
- Treatment of intestinal parasites.
- Plenty of vitamins and good diet.

VERNAL KERATOCONJUNCTIVITIS (VKC) OR SPRING CATARRH

It is a recurrent, bilateral, self-limiting, allergic inflammation of the conjunctiva having a periodic seasonal incidence.

Etiology

VKC is thought to be an **atopic** allergic disorder in many cases, in which IgE-mediated mechanisms play an important role. Such patients may give personal or family history of other atopic diseases such as hay fever, asthma, or eczema and their peripheral blood shows eosinophilia and increased serum IgE level

Predisposing factors

1. Age and sex.

Primarily affects boys and usually presents in the first decade of life (mean age 7 years).

2. *Season.*

More common in summer; hence the name spring catarrh looks a misnomer.

3. *Climate.*

More prevalent in tropics, rare in temperate zones and almost non-existent in cold climate.

Clinical picture

Symptoms

Spring catarrh is characterised by marked burning and **itching** sensation which is usually intolerable and accentuated when patient comes in a warm humid atmosphere. Itching is more marked with palpebral form of disease.

Other associated symptoms include: mild photophobia, lacrimation, stringy **(ropy)** discharge and heaviness of lids.

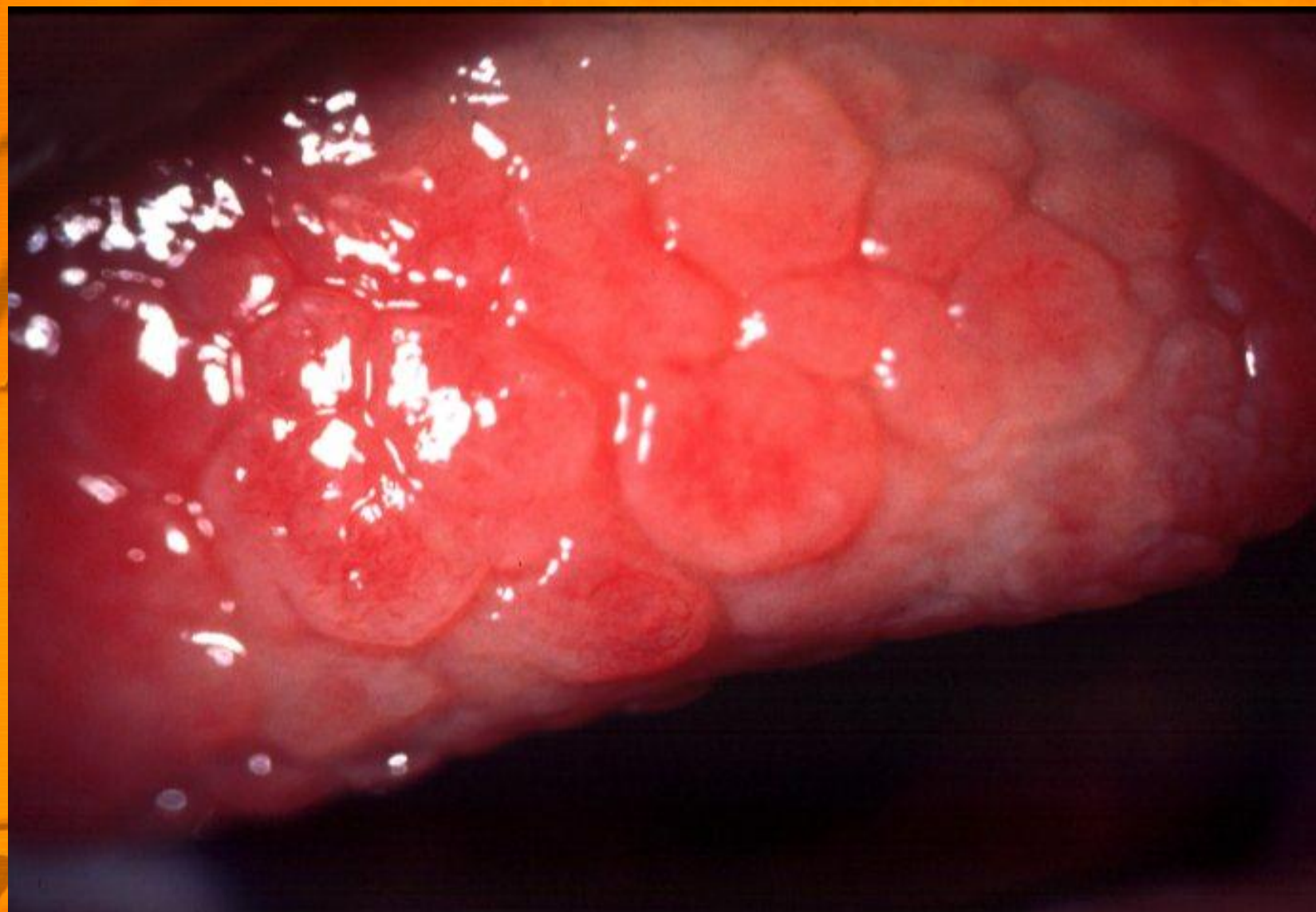
Signs

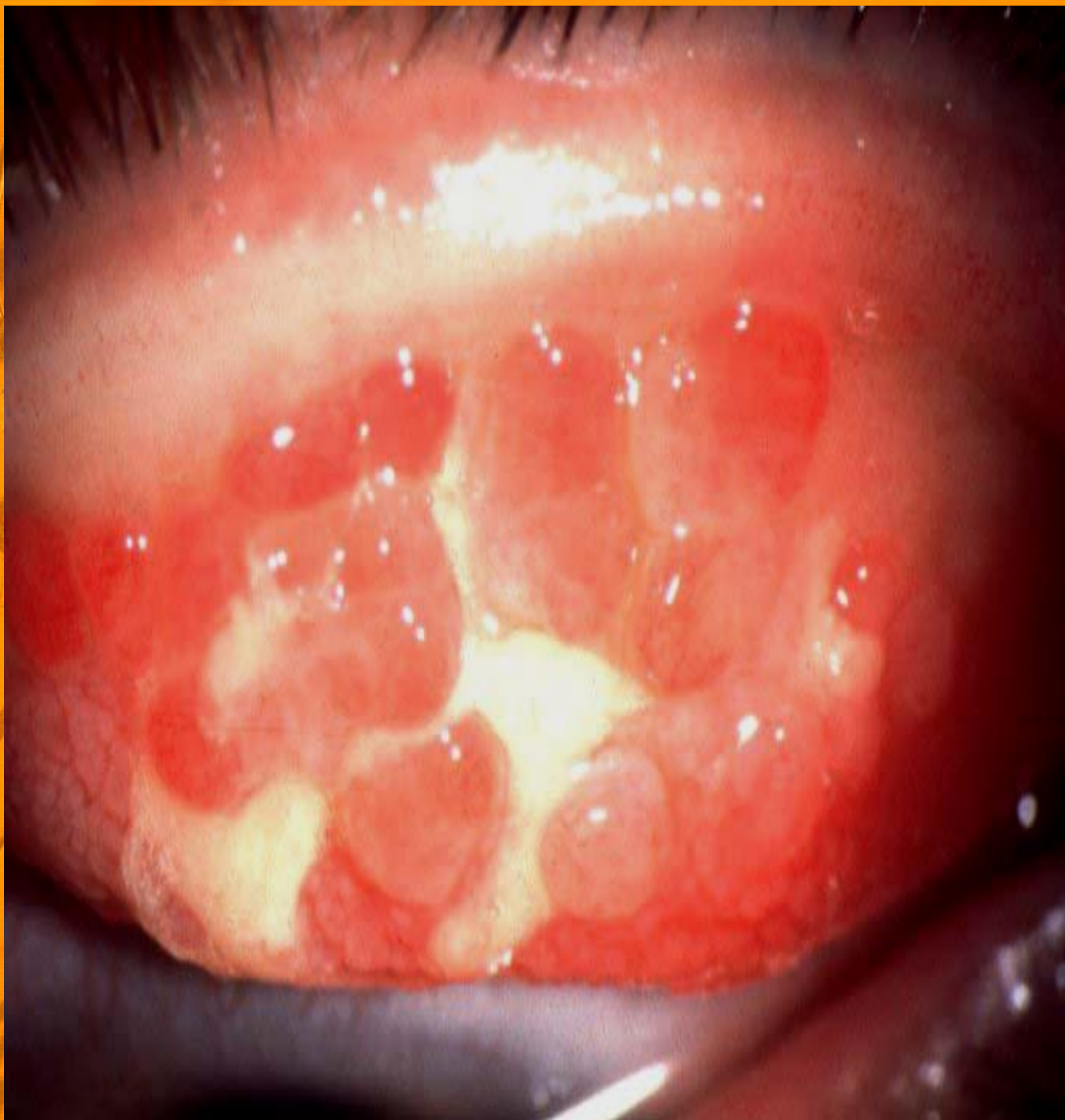
1) Palpebral Type (70%).

The upper palpebral conjunctiva shows

- **Large flat-topped papillae.**
- **Color is bluish white**
- **Cobble stone in arrangement.**
- **Fornix always free.**

If the upper lid is everted and the papillae are left exposed for 1-2 minutes a milky white film forms. This film is sticky and is rich in eosinophils.





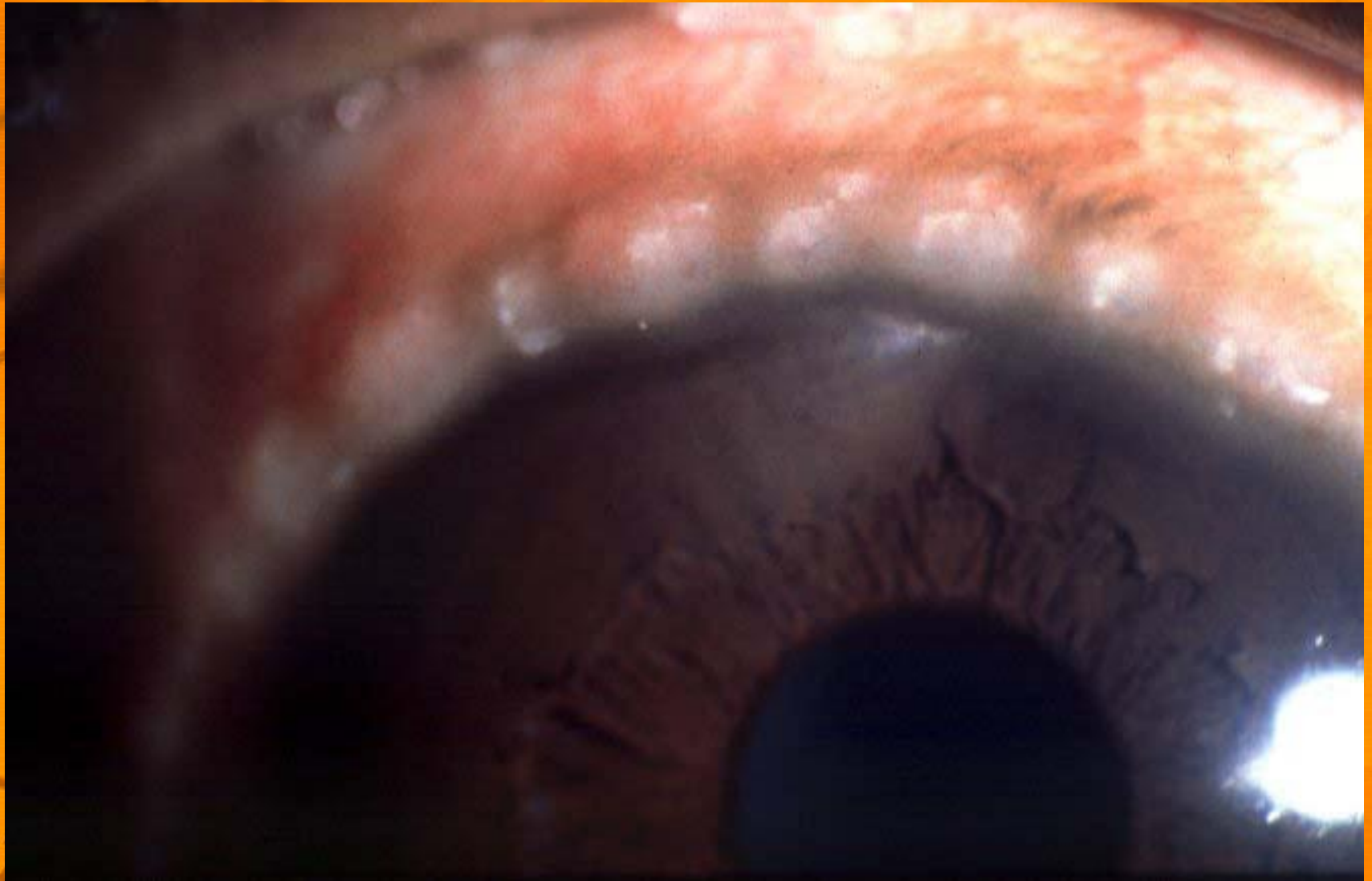
2) Bulbar type(10%)

Gelatinous masses (due to thickened epithelium and hyaline degeneration) occur on the limbus, first lateral and medial and later all-round.

White spots are seen within these masses called **Tranta spots** (Due to aggregation of eosinophils + epithelial debris + calcium deposits).

3) Mixed type (20%)

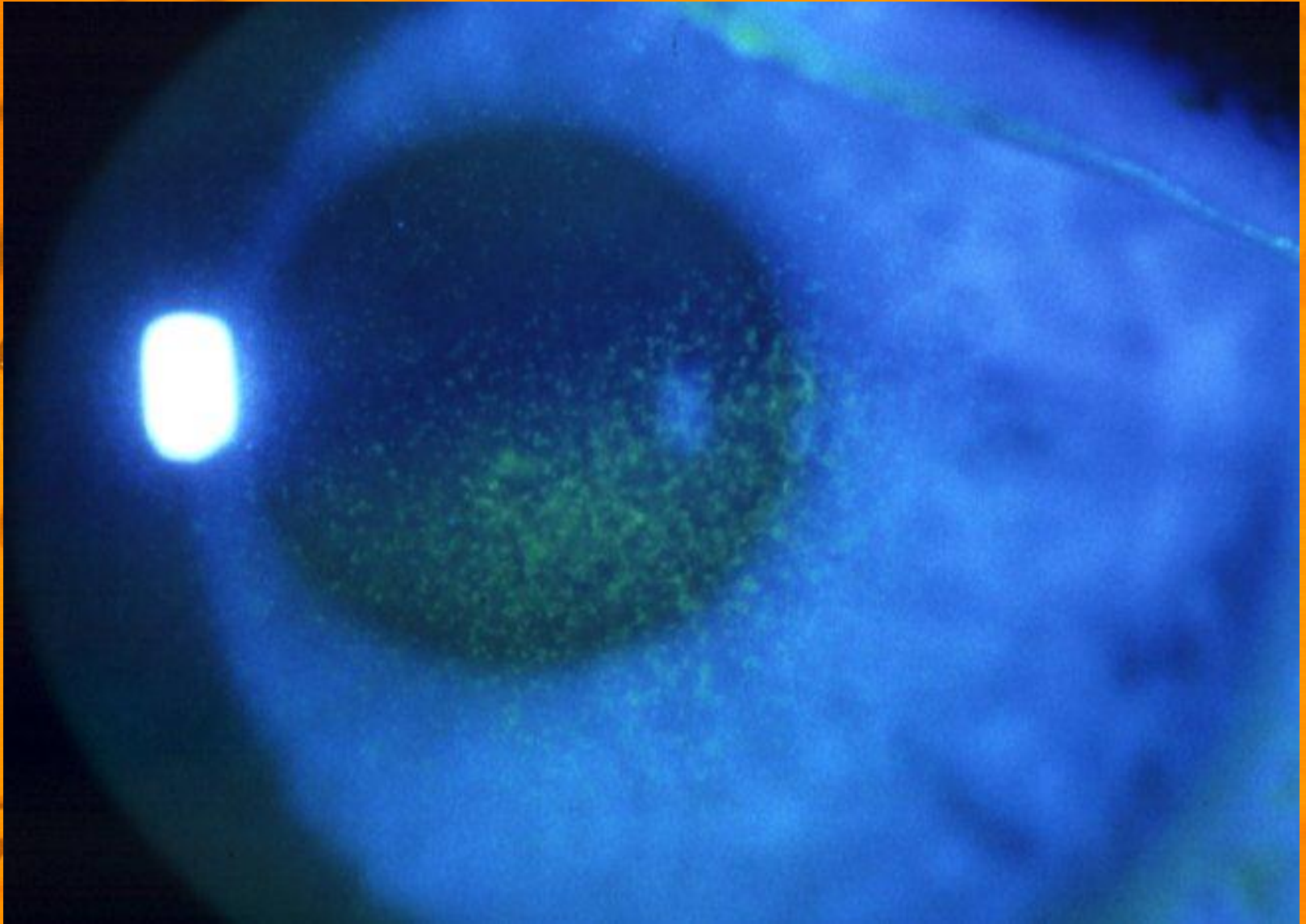


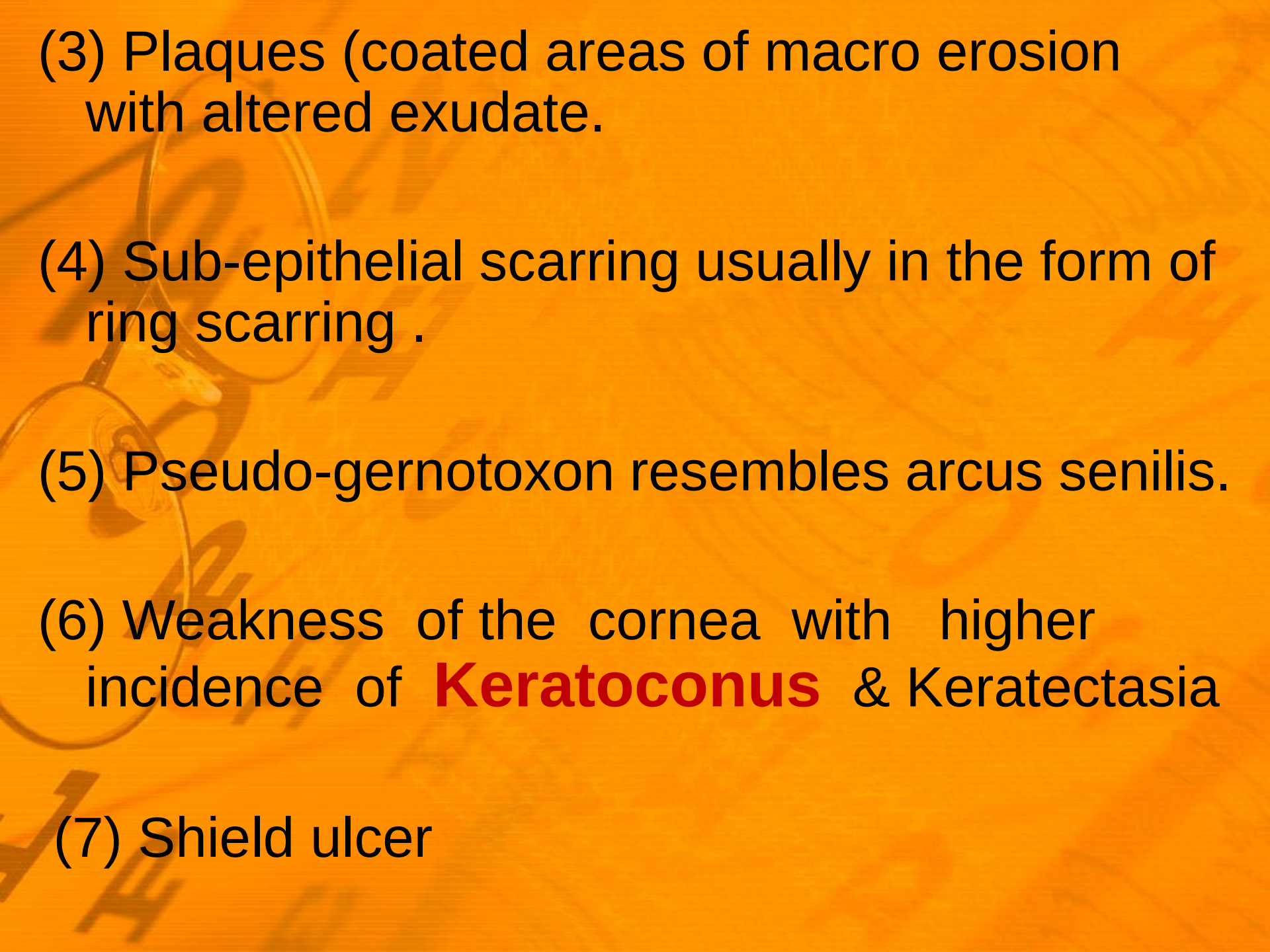


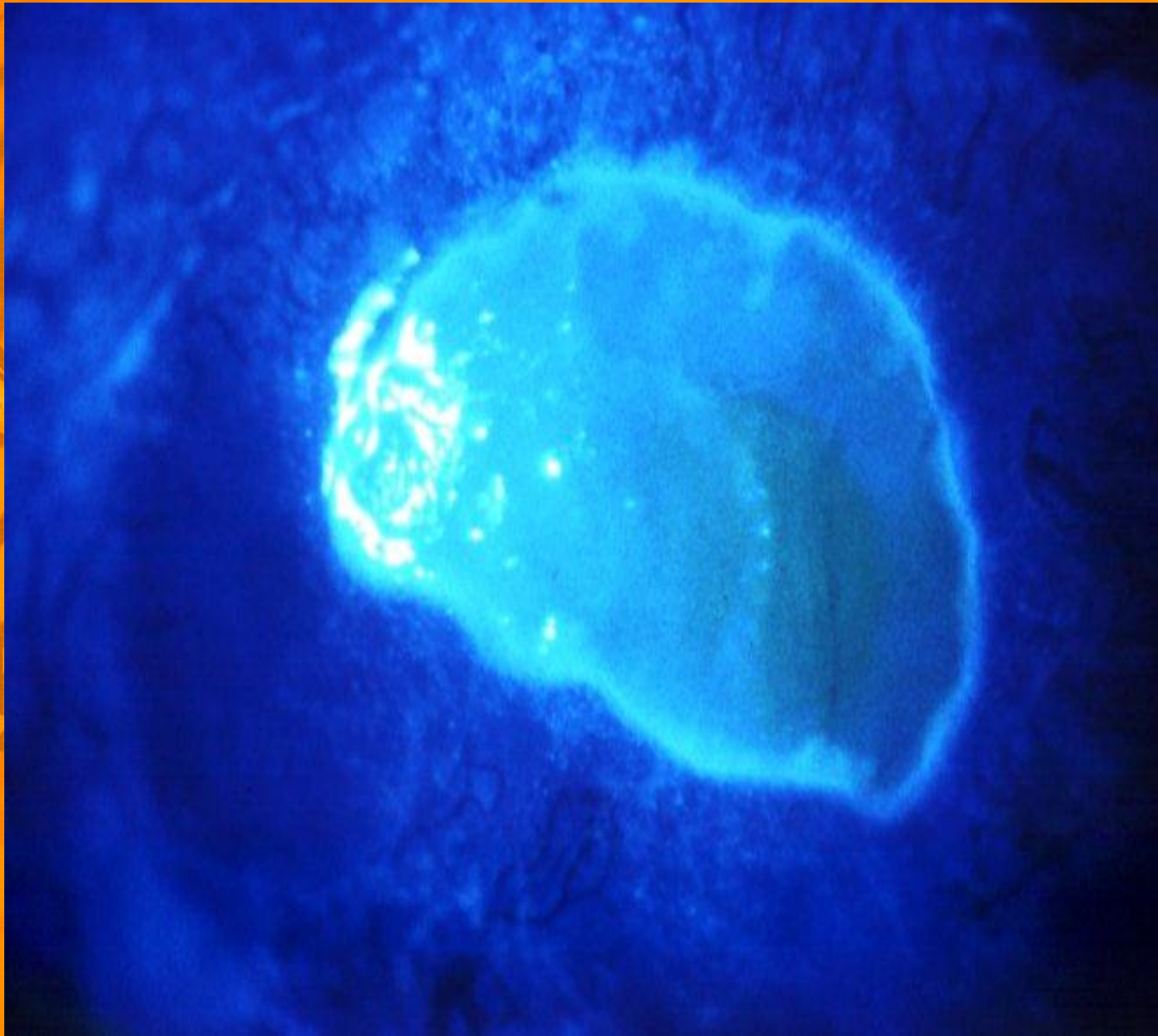
CORNEAL MANIFESTATION

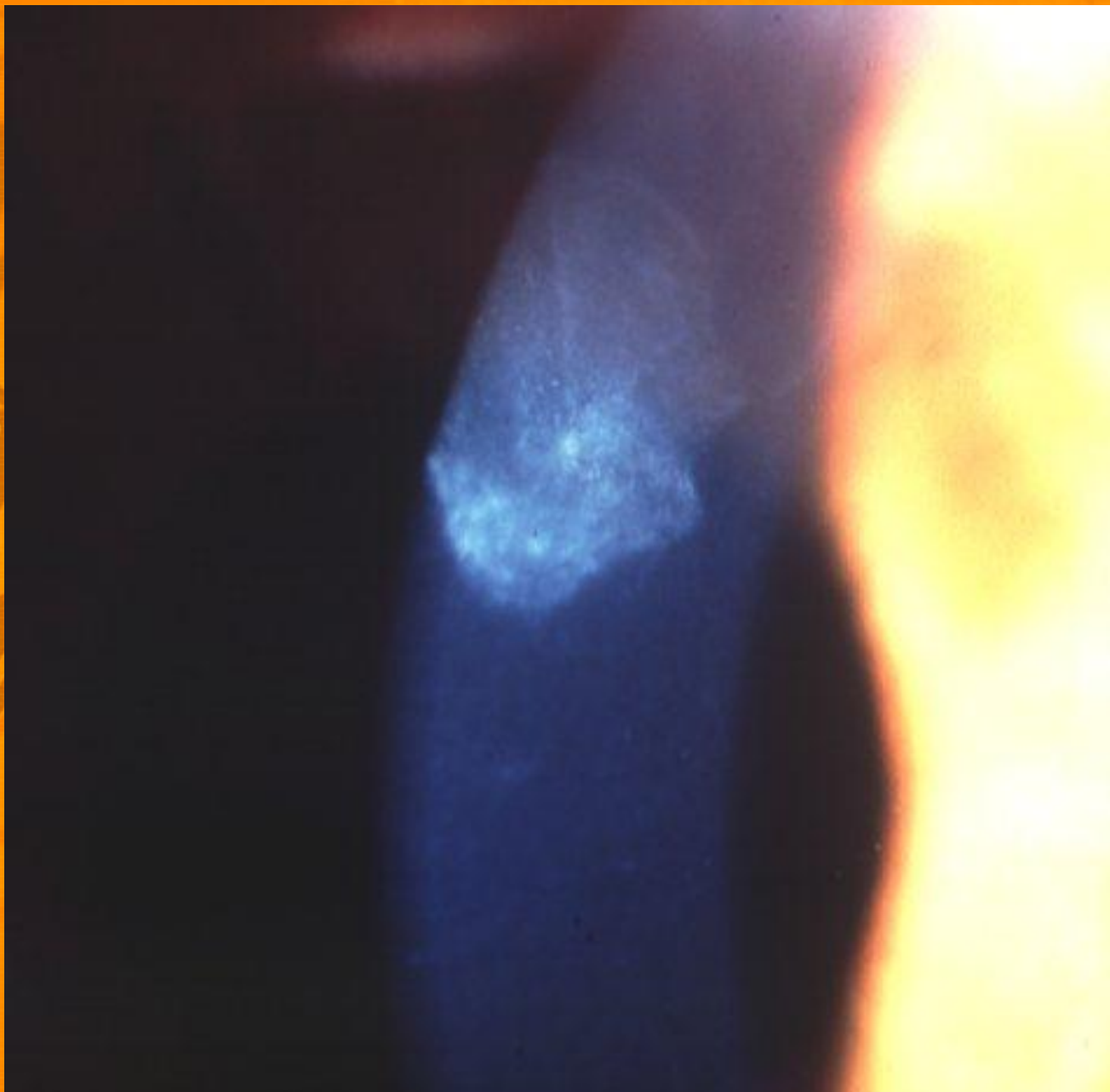
(1) Epithelial micro-erosions (punctate epitheliopathy) or **keratitis superficialis vernalis of Tobgy.**

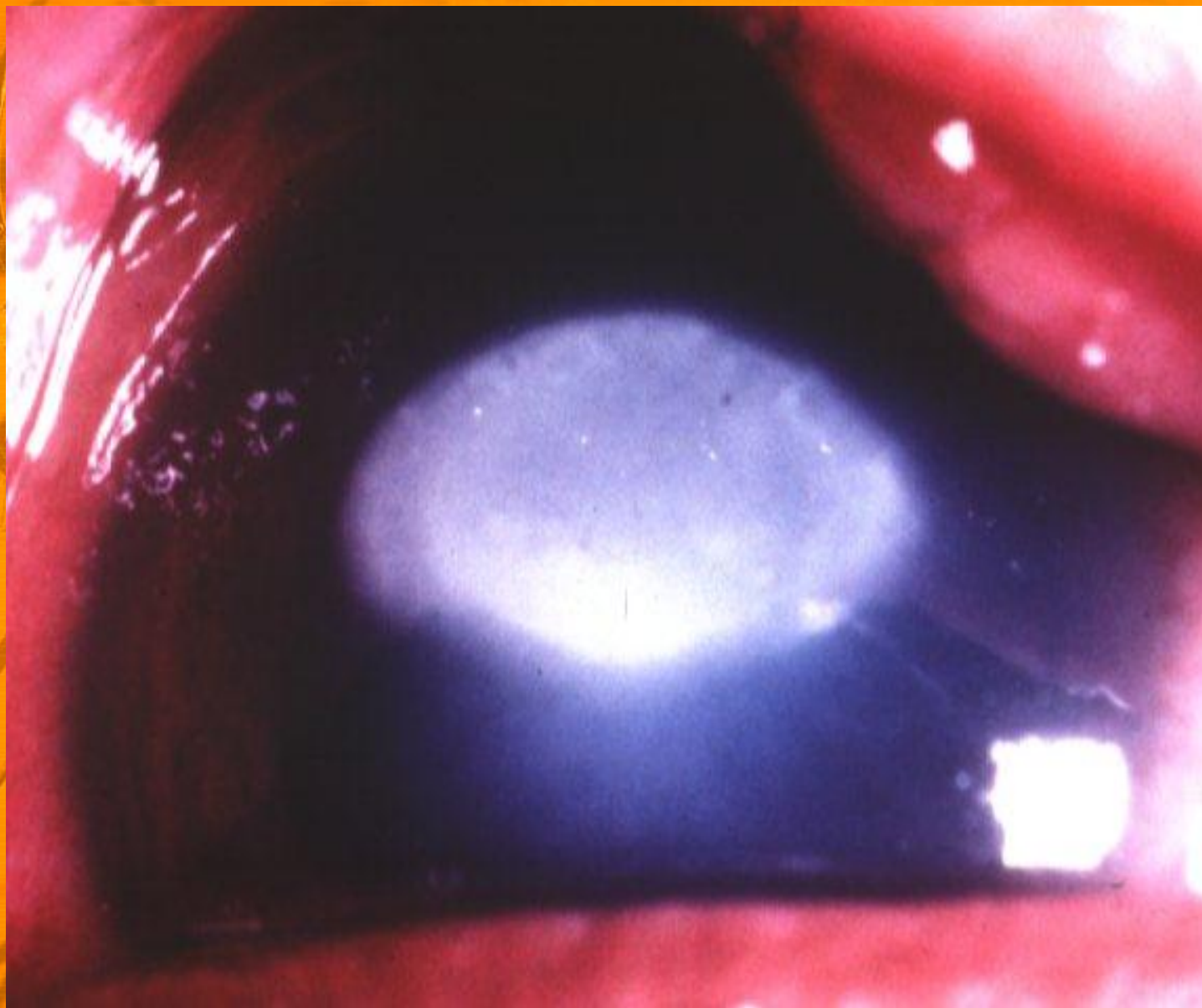
(2) Epithelial macro-erosions.



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- (3) Plaques (coated areas of macro erosion with altered exudate.
 - (4) Sub-epithelial scarring usually in the form of ring scarring .
 - (5) Pseudo-gernotoxon resembles arcus senilis.
 - (6) Weakness of the cornea with higher incidence of **Keratoconus** & Keratectasia
 - (7) Shield ulcer







Treatment

General

- 1) Dark glasses, for photophobia
- 2) Cold compresses, for sensation of heat.

Local therapy

- 1- Topical steroids.*
- 2- Mast cell stabilizers*
- 3- Topical antihistaminics*
- 4- Acetyl cysteine (0.5%)*
- 5- Topical cyclosporine (1%) drops*

Systemic therapy

1. Oral antihistaminics

Help sleep and reduce nocturnal eye rubbing

2. Immunosuppressive agents

Like steroids, cyclosporine and azathioprine for a short duration have been recommended for advanced, very severe, nonresponsive

Treatment of large papillae

- 1- *Supratarsal steroid injection*
- 2- Cryo application
- 3- Surgical excision is recommended for extraordinarily large papillae.

Treatment of vernal keratopathy

- *A large vernal plaque* requires surgical excision by superficial keratectomy.
- *Severe shield ulcer* resistant to medical therapy may need surgical treatment in the form of debridement, superficial keratectomy, excimer laser therapeutic keratectomy as well as amniotic membrane graft to enhance reepithelialization.

Giant papillary conjunctivitis

Pathogenesis

Repeated exposure to the environmental antigens that adhere to the mucus and protein which coat the surface of contact lenses plus the trauma to the upper tarsal conj. by the contact lens.

Clinical picture

- Ocular itching, mucous discharge
- Macropapillae (from 0.3 - 1 mm in diameter)
- Giant papillae (greater than 1 mm in diameter)



Etiology:

- 1- Contact lens wears.
- 2- Artificial eye wears.
- 3- Patient with protruding ends of monofilament sutures

Treatment:

- 1- Lens care thoroughly cleaned by non-preserved Preparations
- 2- Use of a different lens design.
- 3- Commonly sodium cromoglycate 4% four times/day even with the contact lens in its place.