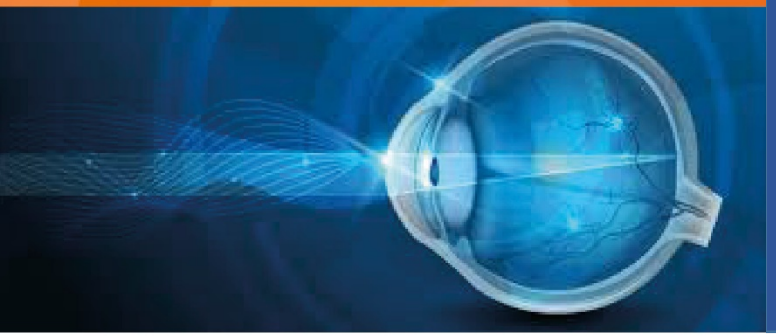
Ocular Surface Inflammation and Allergy



Dr Alexandra Crawford
Senior Fellow in Cornea & Anterior Segment

Dr David Pendergrast
Consultant Ophthalmologist

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Case Scenario Links

Ocular Surface Inflammation and Allergy

- Watery eye in an infant (Oph03)
- Itching child (Derm01)
- Facial swelling and itchy rash (Derm04)

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The Acute Red Eye

	Pain	Vision	Redness	Discharge	Cornea	Pupil	IOP
Subconj	Nil	Normal	Localised dense	Nil	Clear	Reg	Normal
Conj	Nil	Normal	Forniceal	Mucoid serous purulent	Clear	Reg	Normal
Keratitis	Sharp	? reduced	Circumcorneal	Watery	Pathology	Reg	Normal
Uveitis	Aching	? reduced	Circumcorneal	Nil	Clear	Small irreg	Normal
ACG	Severe	Very poor	Diffuse	Nil	Oedema	Mid non reactive	High

Also refer to the UOA acute red eye tutorial

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Papillae versus Follicles

Papillae

- Chronic inflammation
- Allergy
- C/L, sutures, prosthesis
- Cobblestones
- Central vascularity

Follicles

- Acute inflammation
- Viral
- Chlamydial
- Toxic
- Pale lesions
- Surrounding vessels injected

Conjunctival Papillae

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Conjunctival Follicles

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Allergic Conjunctivitis: acute to chronic

- Acute hayfever conjunctivitis
- Seasonal allergic conjunctivitis
- Perennial allergic conjunctivitis
- Vernal keratoconjunctivitis
- Atopic keratoconjunctivitis

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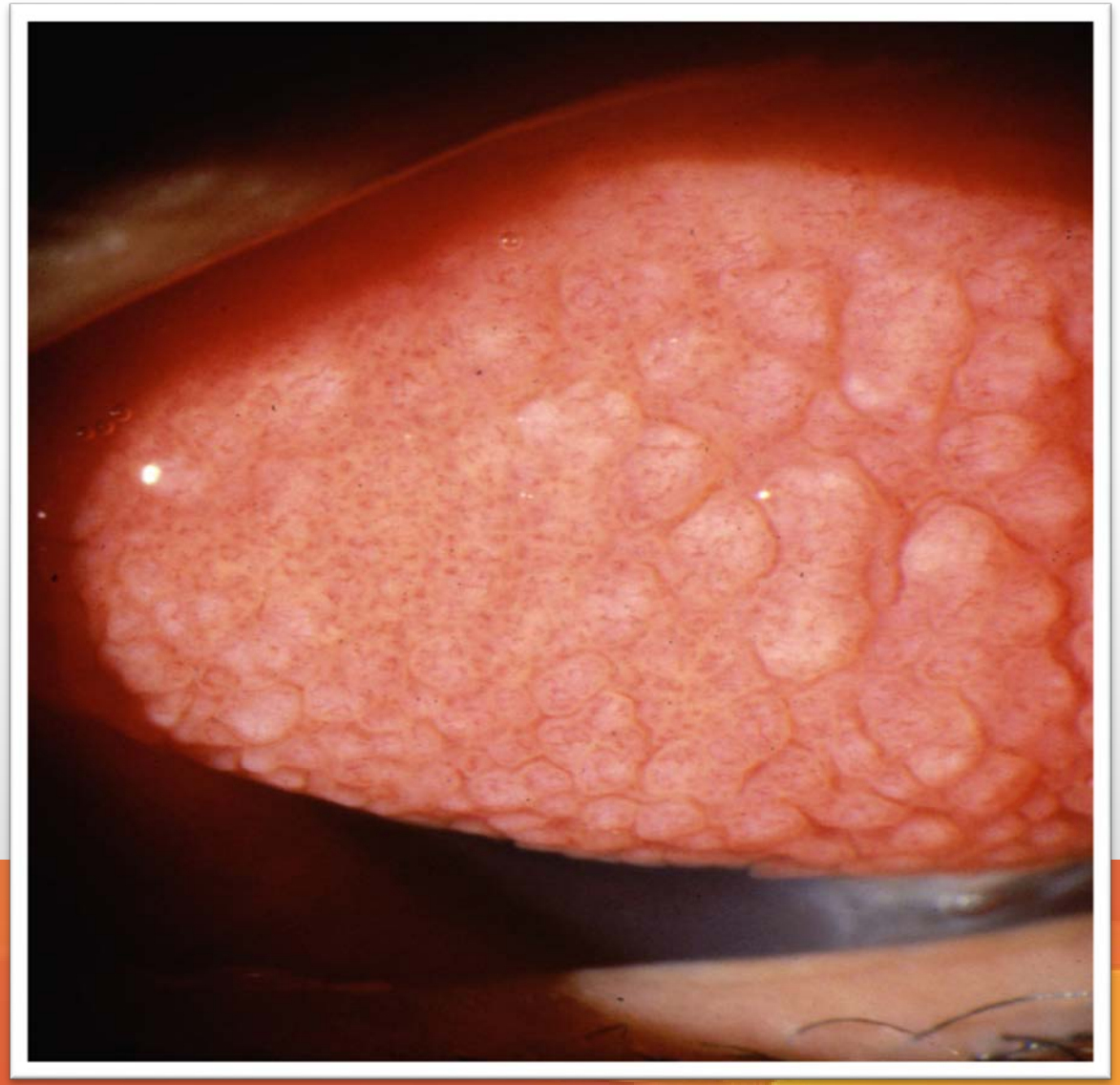
Allergic conjunctivitis: papillae



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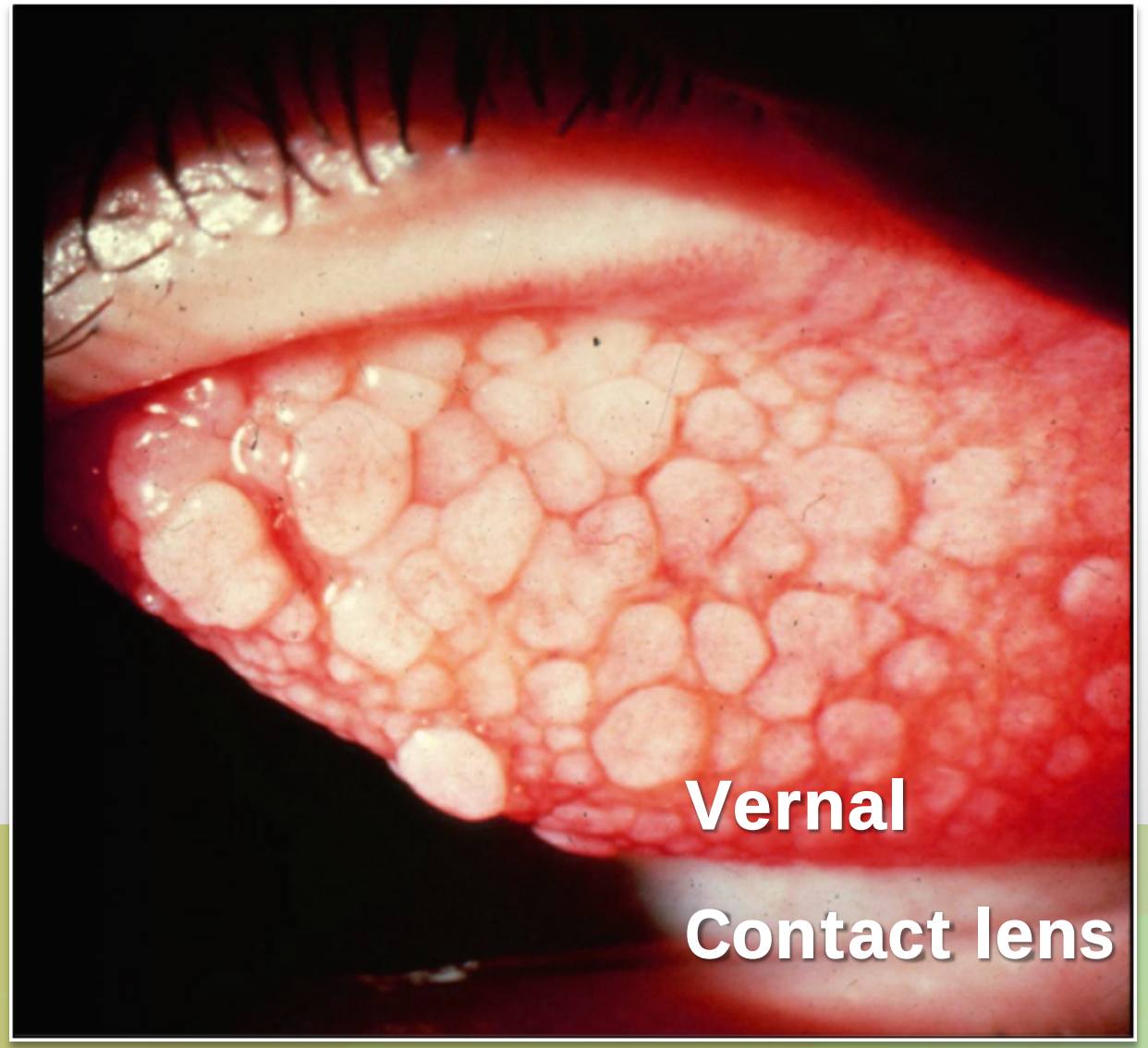
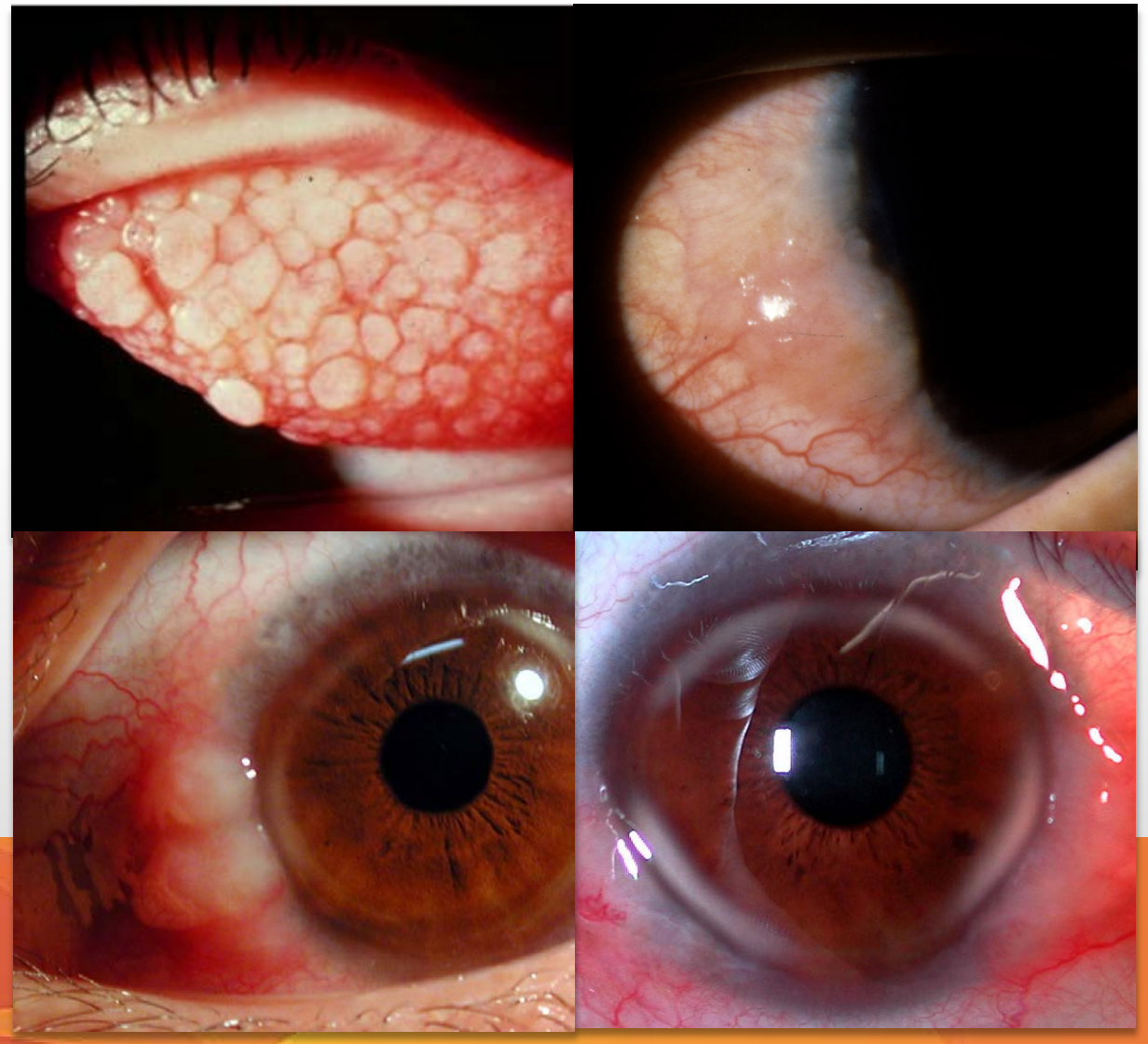
Conjunctival Giant Papillae



Vernal Keratoconjunctivitis

- Age 9 to 19 years
- Boys typically > Girls
- Warm dry climates
- Symptoms: itching, mucus, photophobia
- Signs: superior tarsal or limbal papillae
- Pseudogerontoxon
- Peripheral fibrovascular pannus
- Shield ulcer



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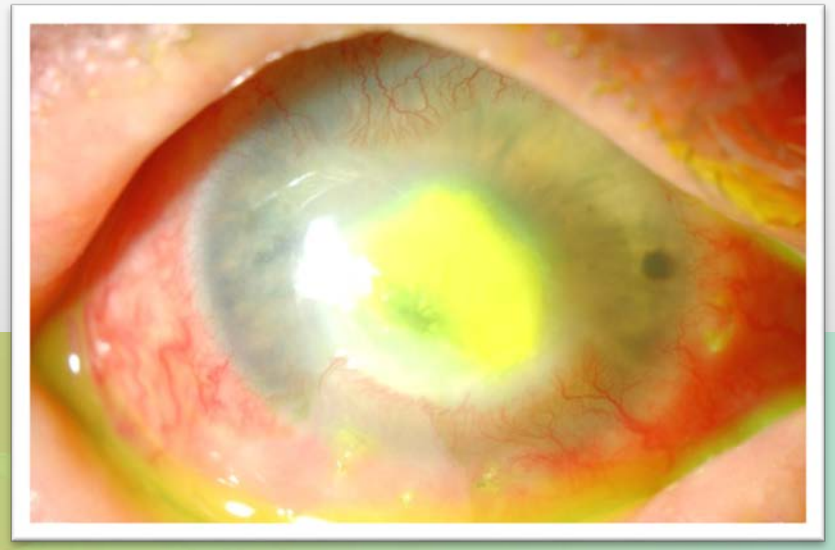
Corneal Shield Ulcer

- Persistent Epithelial defect
- Physical trauma from papillae, rubbing
- Chemical trauma from inflammatory mediators
- Mucous plaque formation



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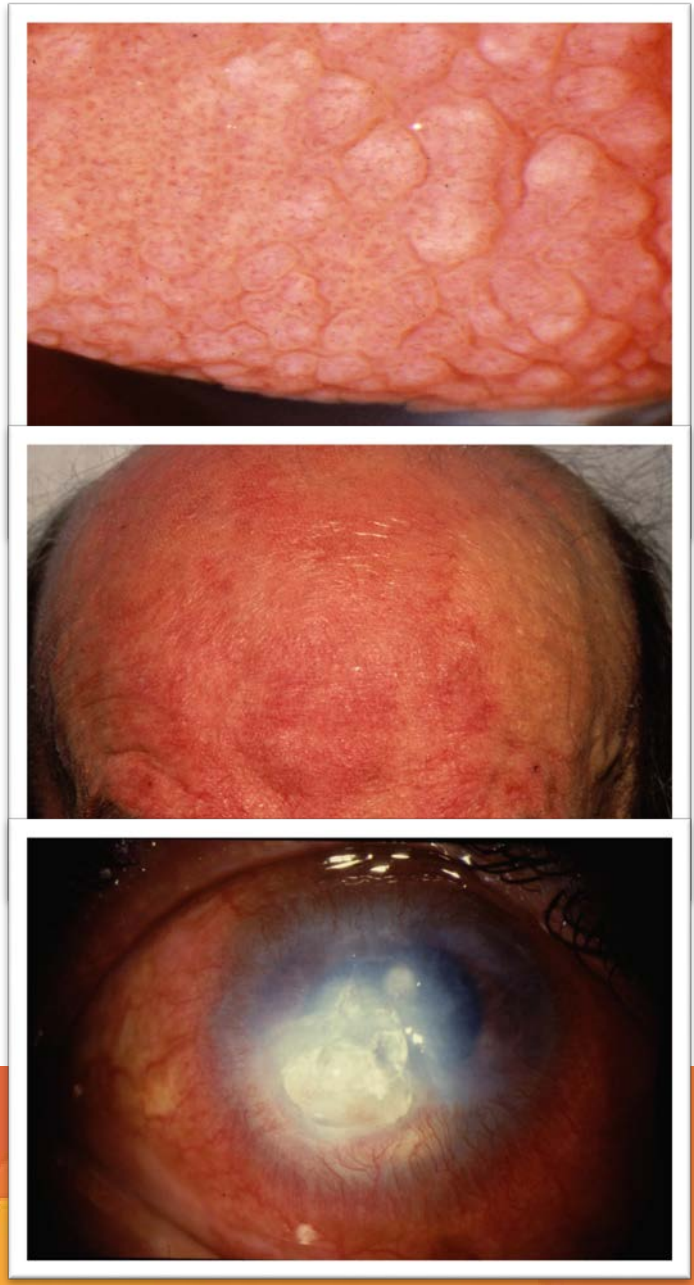
Atopic Keratoconjunctivitis

- Adult onset
- Symptoms: itch, photophobia, watering
- Signs: redness
- Fine papillary reaction
- Periorbital atopic eczema
- Microbial keratitis esp. opportunistic
- Deep corneal vessels and scarring



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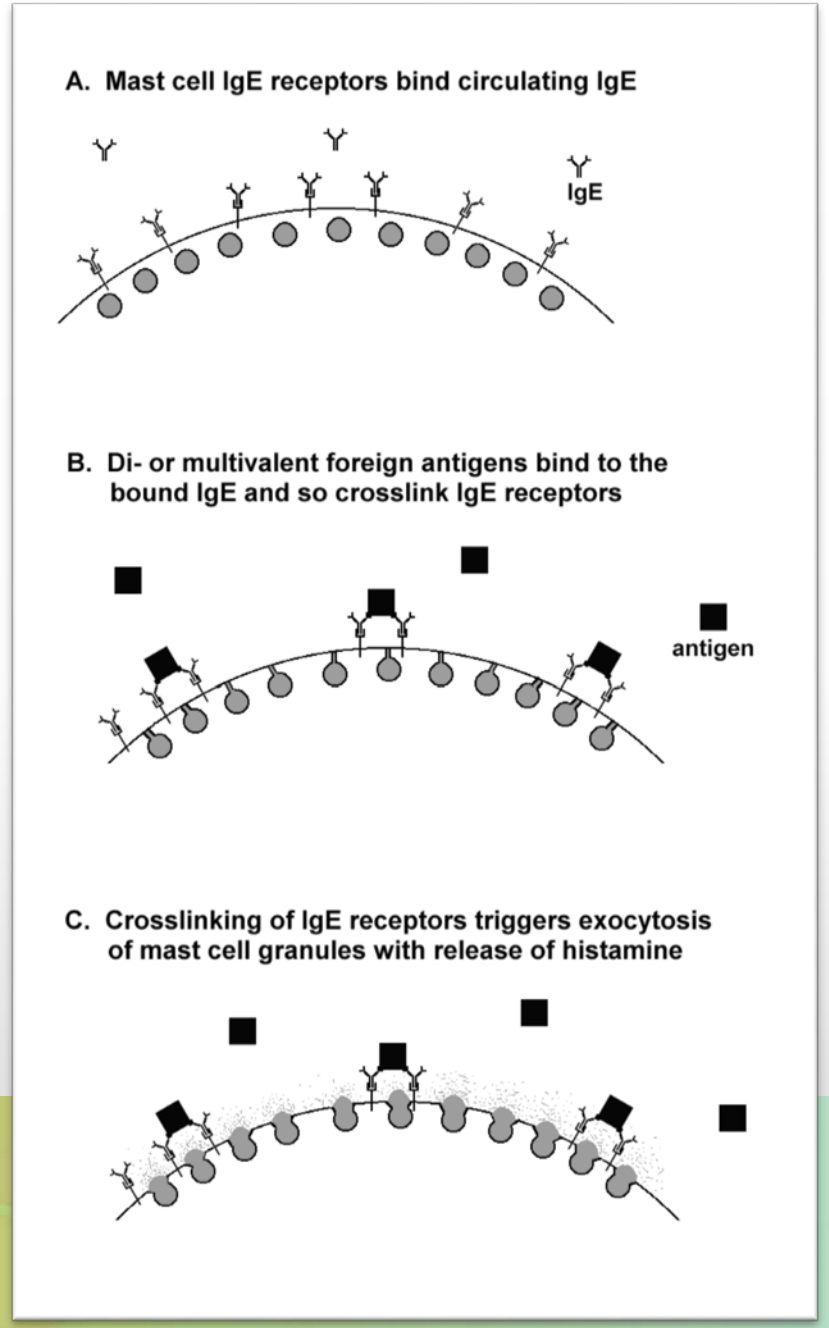
Pathophysiology:
Mast Cells

Mast cell degranulation in response to:

- Allergens and IgE
- Physical trauma (rubbing)
- UV exposure
- Increased ocular surface temperature
- Bacterial lipopolysacharides



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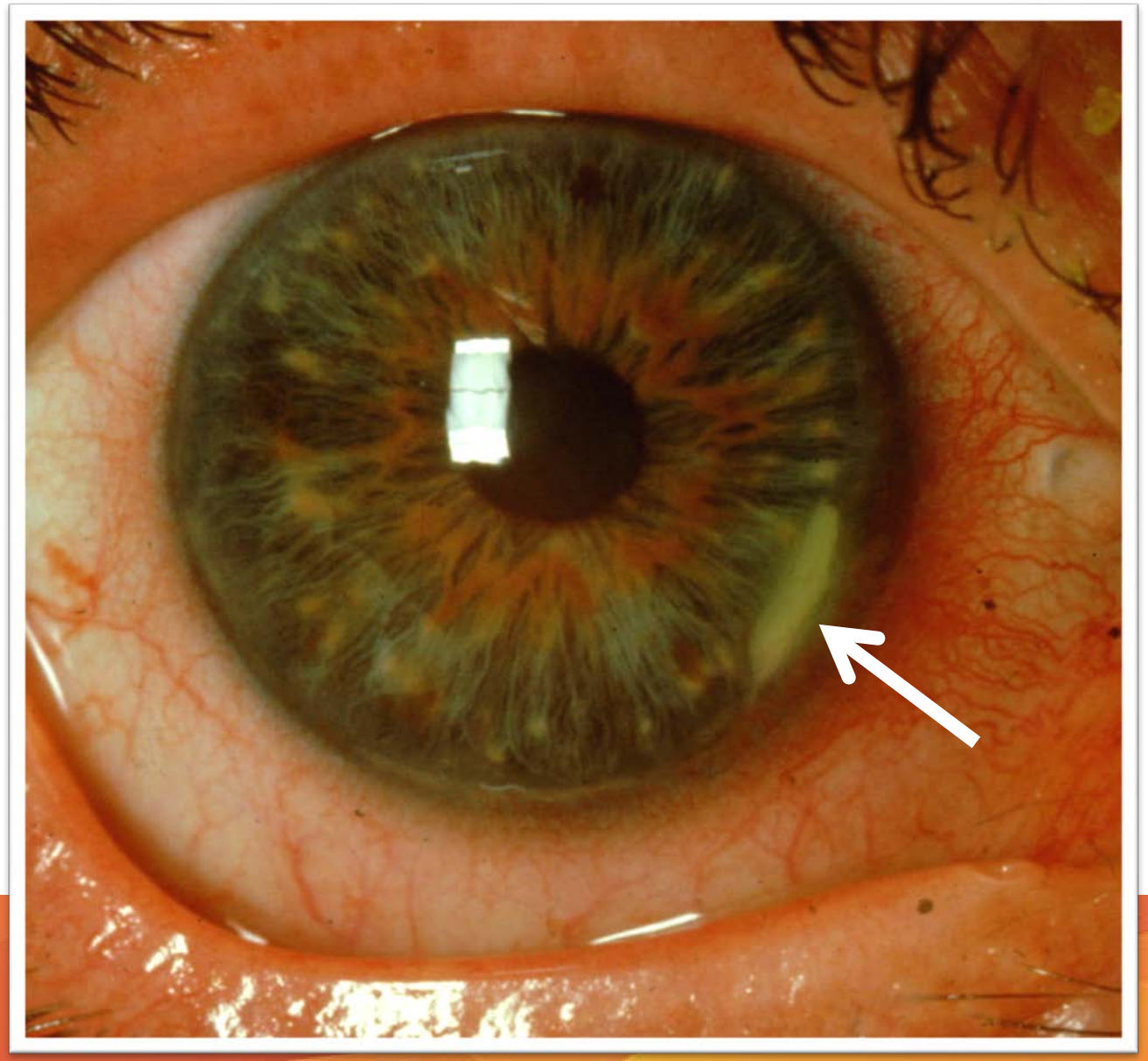
Therapeutic options: I
(for milder disease)

- Avoidance of allergens and rubbing
- Cold compresses
- Topical antihistamines: rapid onset
- Systemic antihistamines: slower onset
- Mast cell stabilisers: preventative use
- Topical NSAIDs: Acular has some effect
- Dual action agents: best current therapy e.g. Patanol

Therapeutic options II
(for vision threatening disease)

- Topical corticosteroids
  - Introduce at high frequency, tail off rapidly
- Topical cyclosporine 2% ointment
- Systemic immunosuppression
- Surgery:
  - Excision of papillae
  - Superficial keratectomy

Marginal keratitis:
hypersensitivity reaction
to staph. toxins



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Marginal Keratitis

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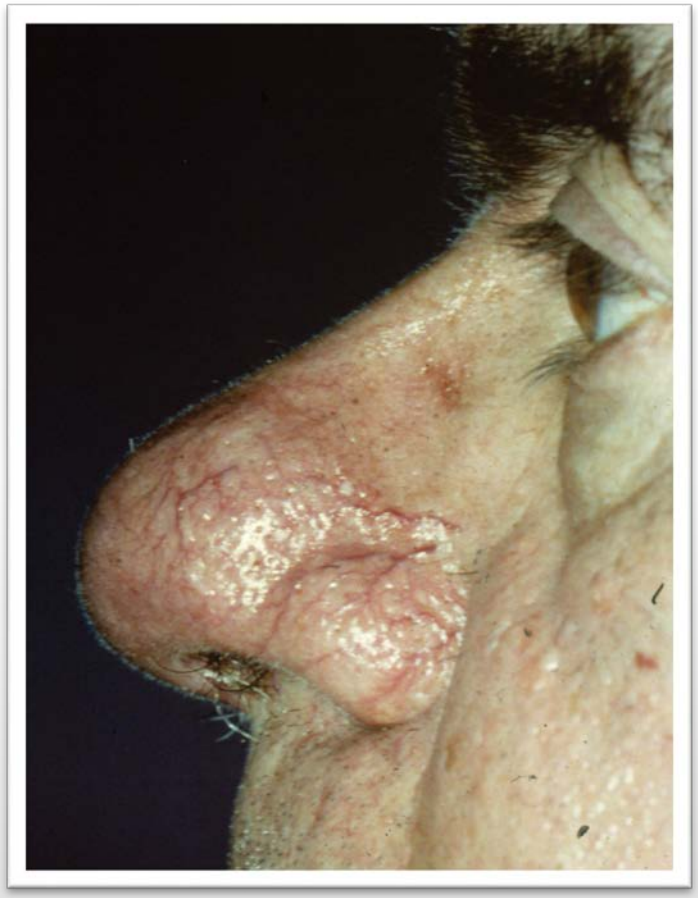
Rosacea, blepharitis, C/L wear



Adenovirus Keratoconjunctivitis

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Adenovirus Keratoconjunctivitis

Pseudomembranous conjunctivitis

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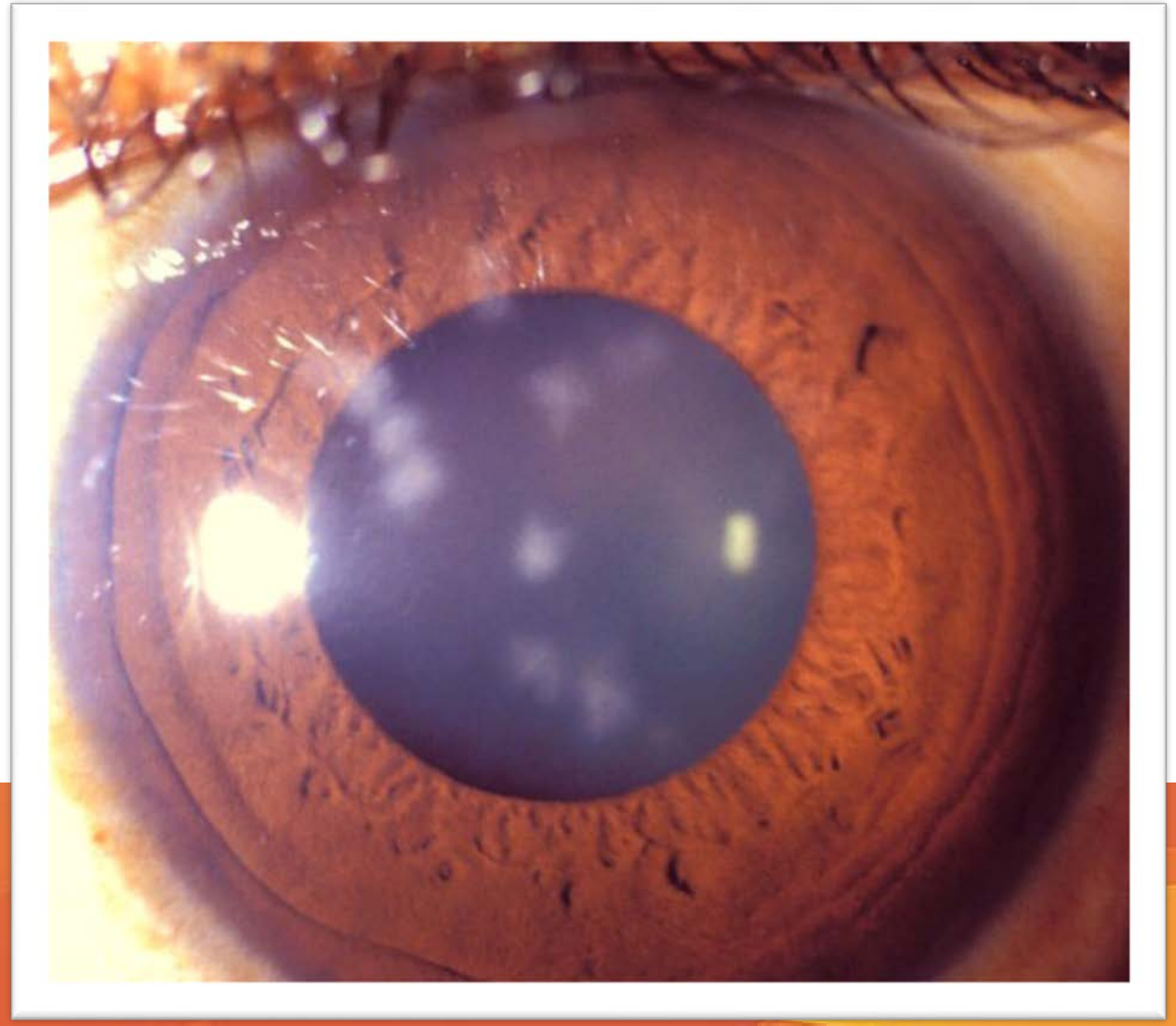
Adenovirus Keratoconjunctivitis

Corneal subepithelial infiltrates



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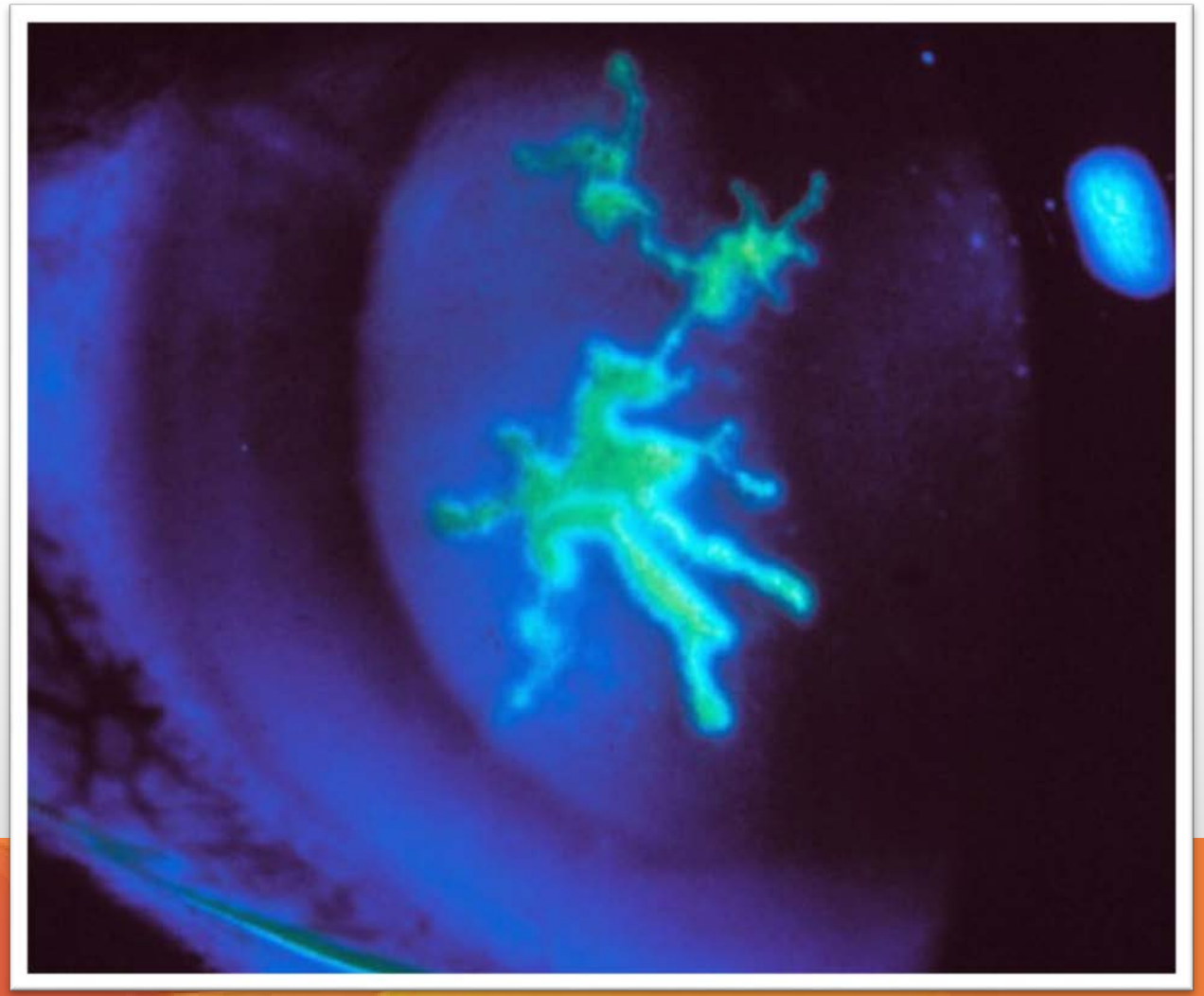
Herpes simplex blepharo-conjunctivitis

50% develop keratitis

Herpes Simplex: Dendritic Ulcer

- 50% will heal without Rx
- Acyclovir 95% heal within 2 weeks
- 25% risk recurrence within 5 years



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Herpes Simplex: Amoeboid Ulcer

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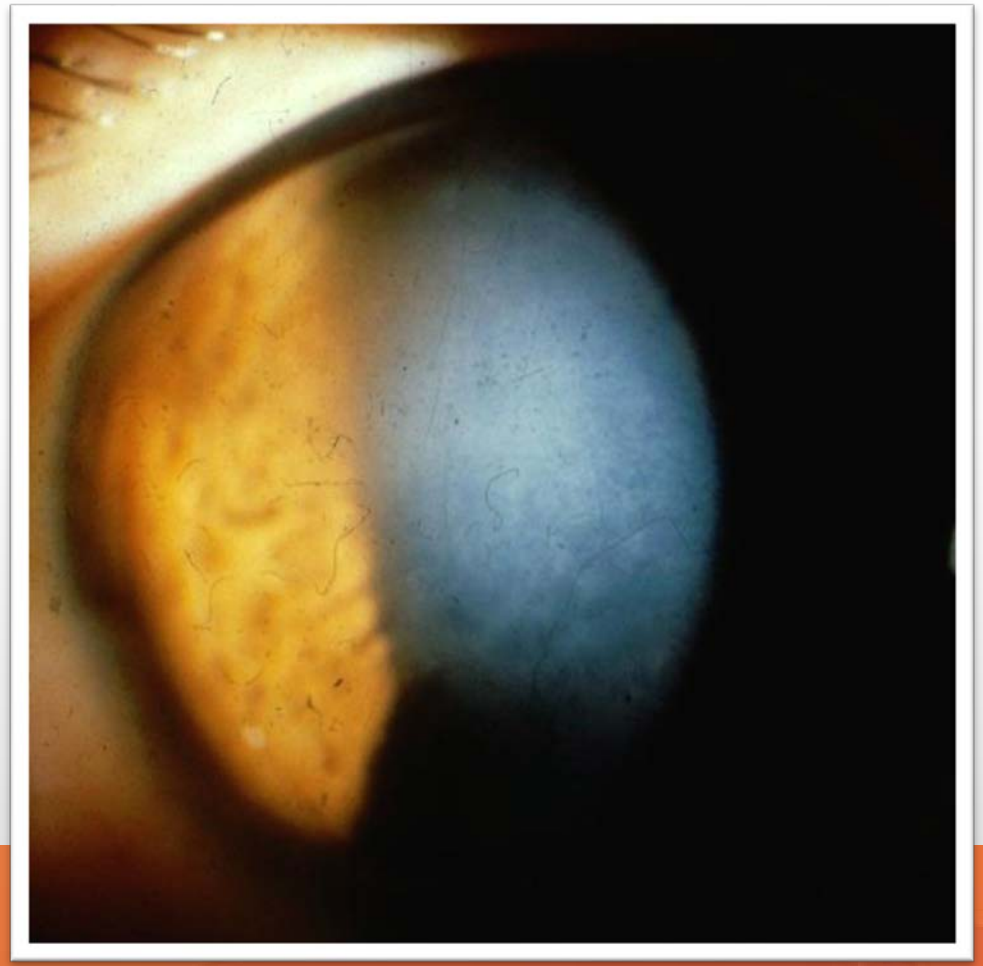
Herpes Simplex: Disciform Keratitis



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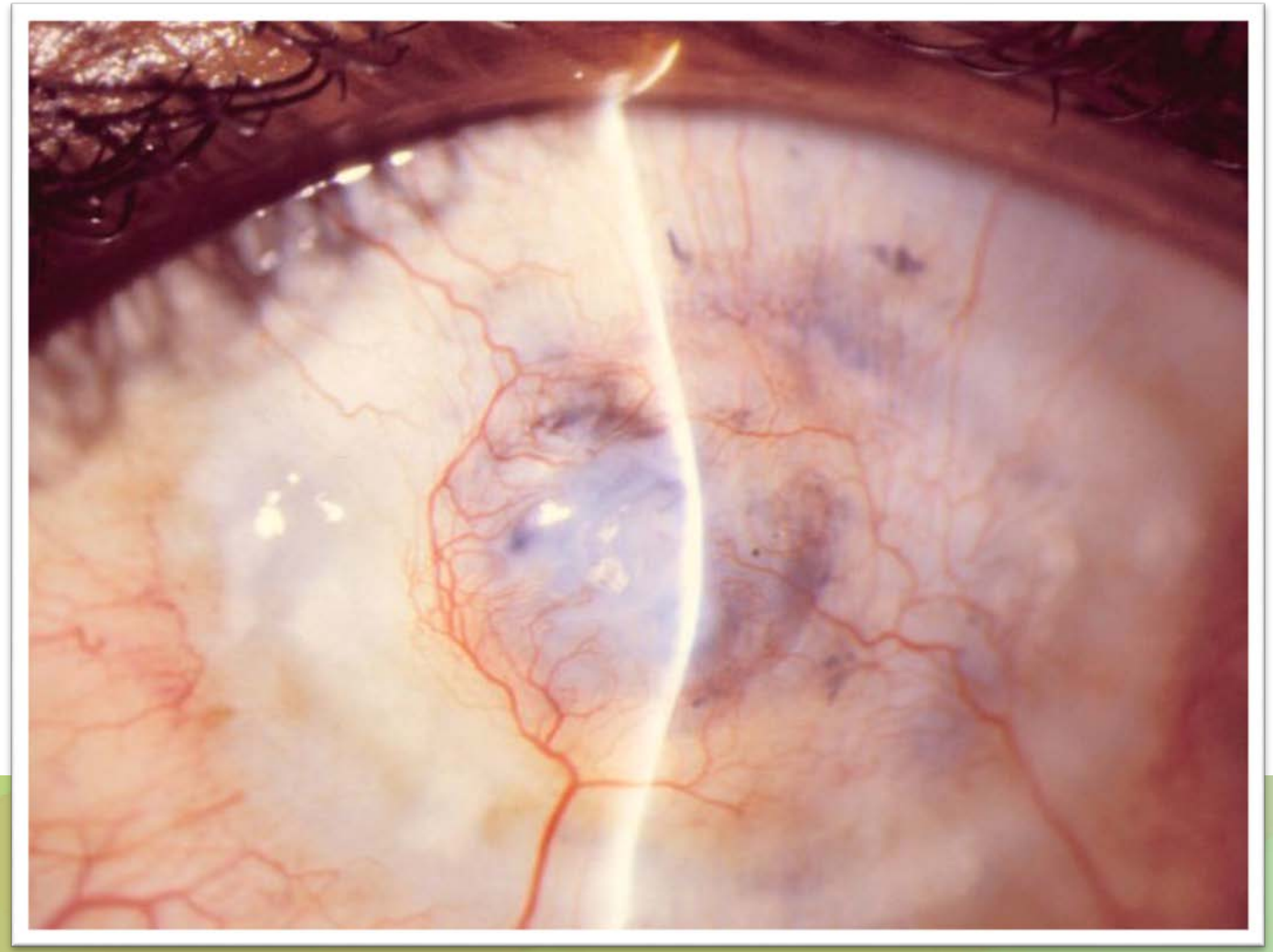
HSV: Anaesthetic (denervated), Scarred, Vascularised Cornea



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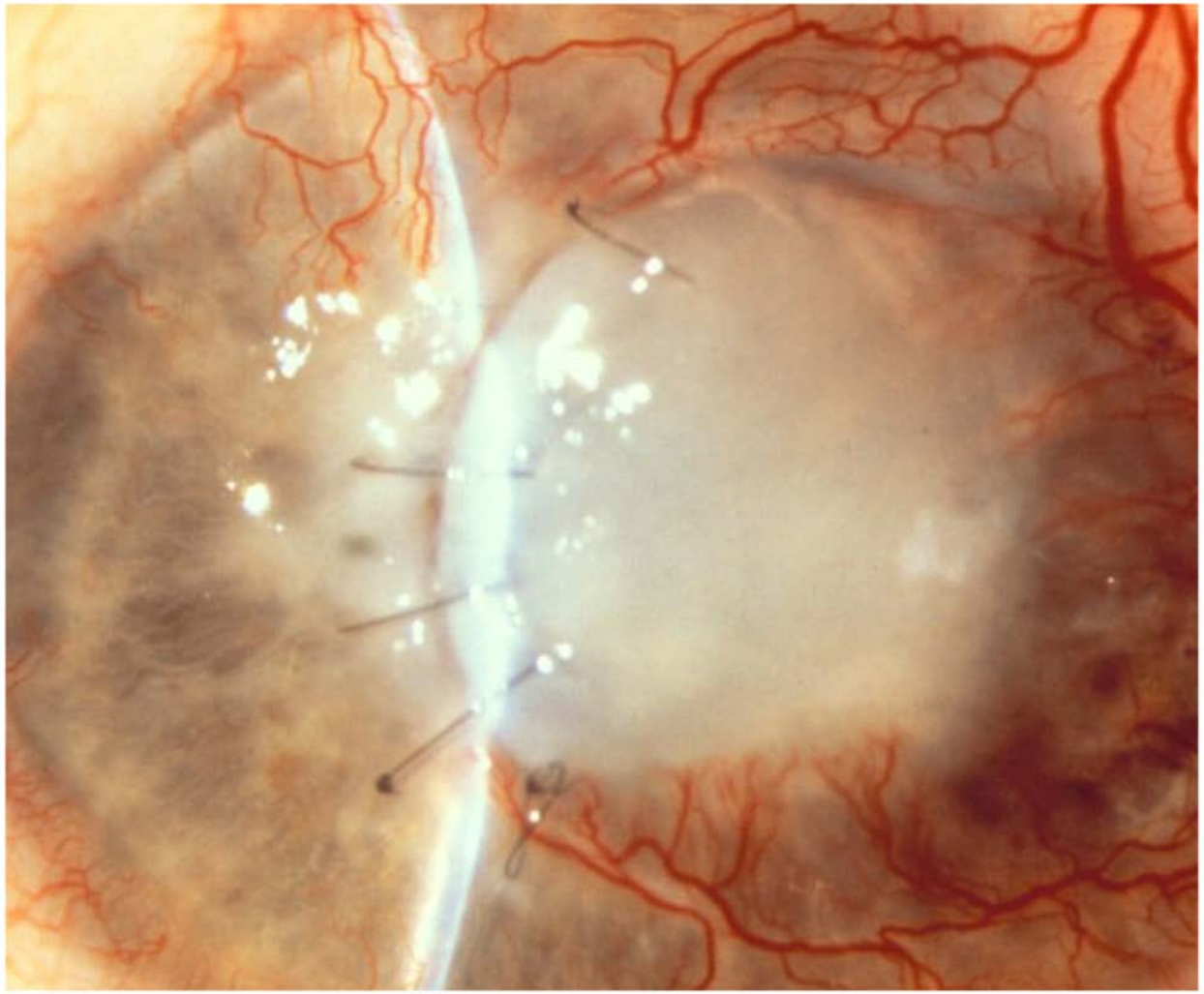
Failed Corneal transplantation



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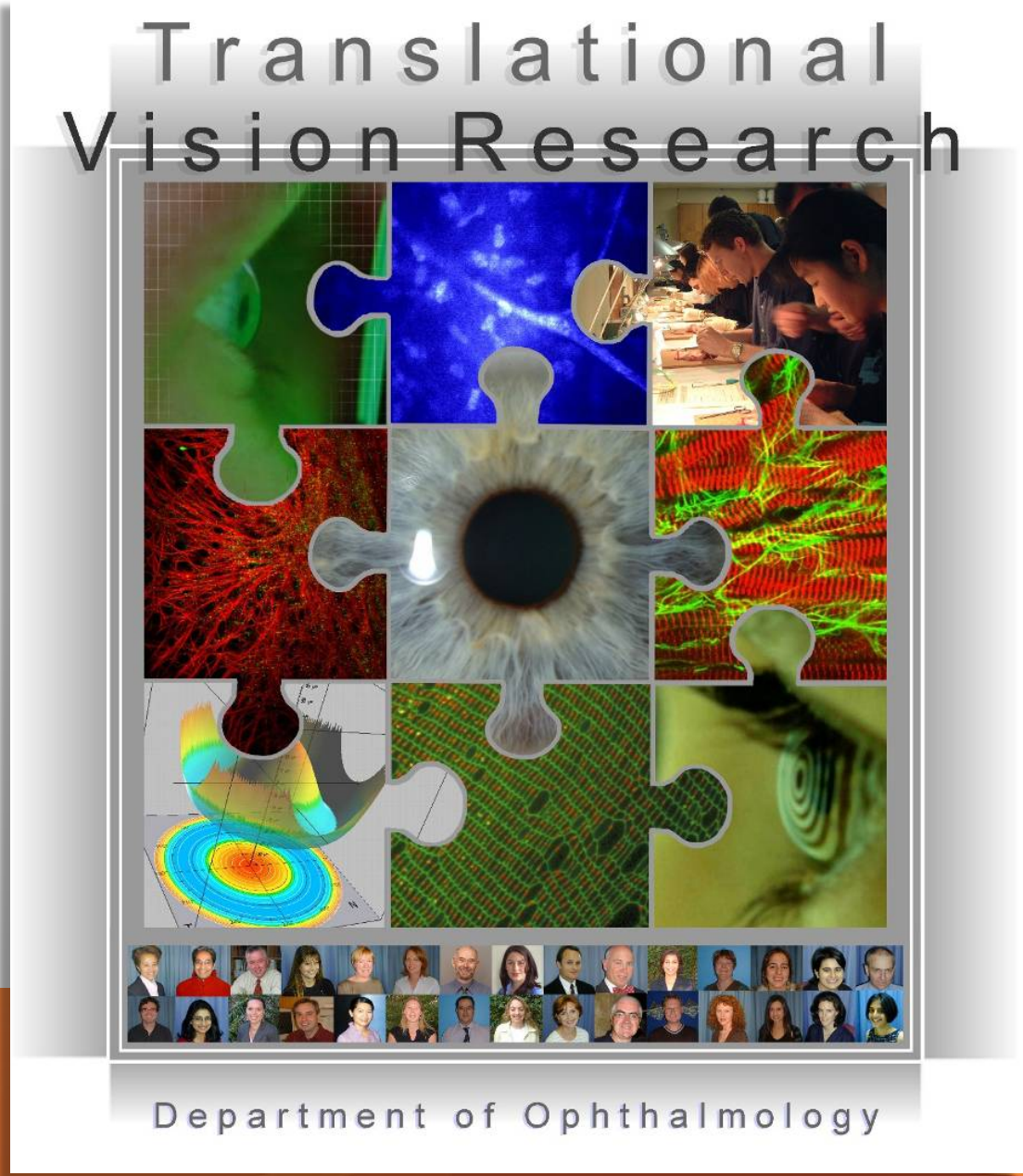

The End

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