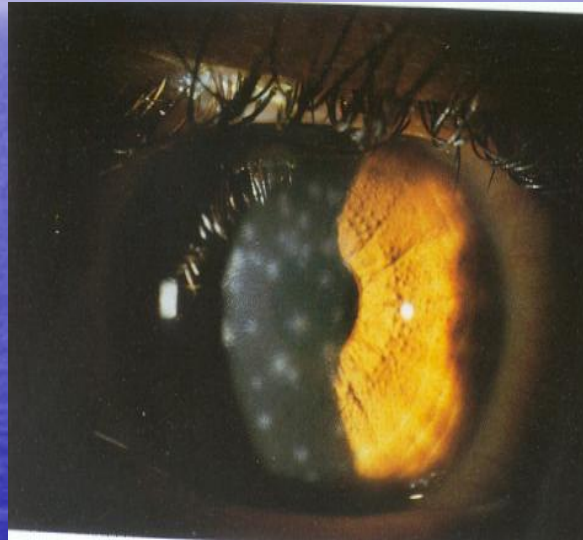
Thygeson Superficial Punctate Keratits



N.K. Niti Susila

Thygeson Superficial Punctate Keratitis

- Ucommon
- Bilateral
- Idiophatic
- Exarbations
- Remission
- Young adults
- Can any age → recurrence can continue for decade

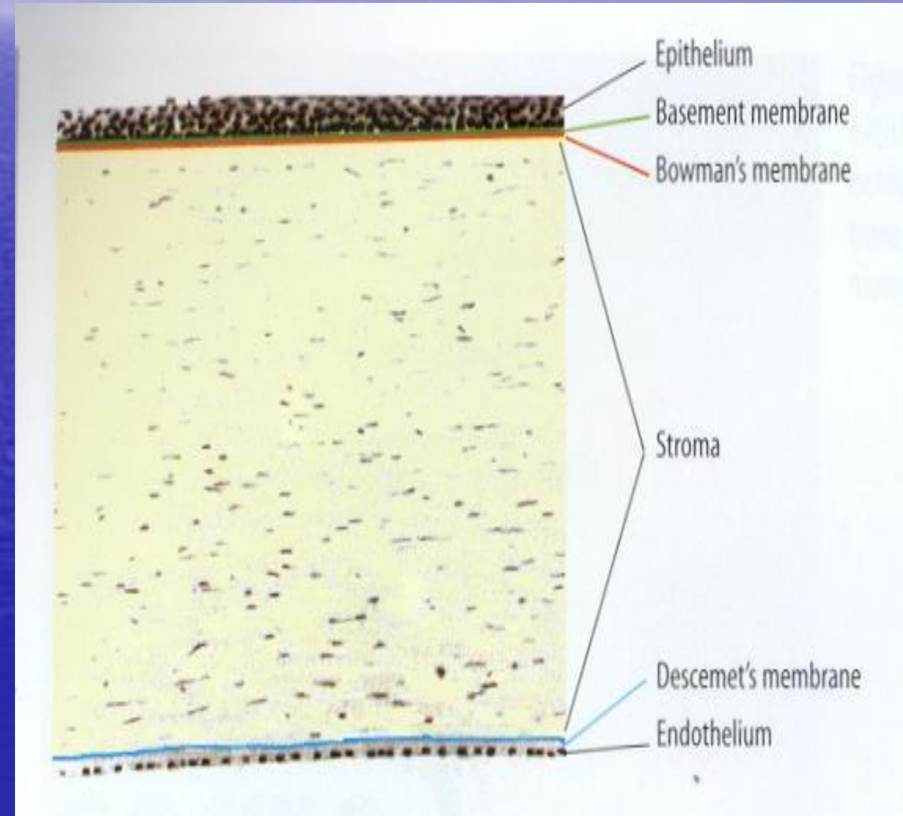
Anatomy and physiology

- A complex structure
- Having a protective role
- Parabola
- Transparent very clear
- No blood vessel
- No color

Structure the cornea

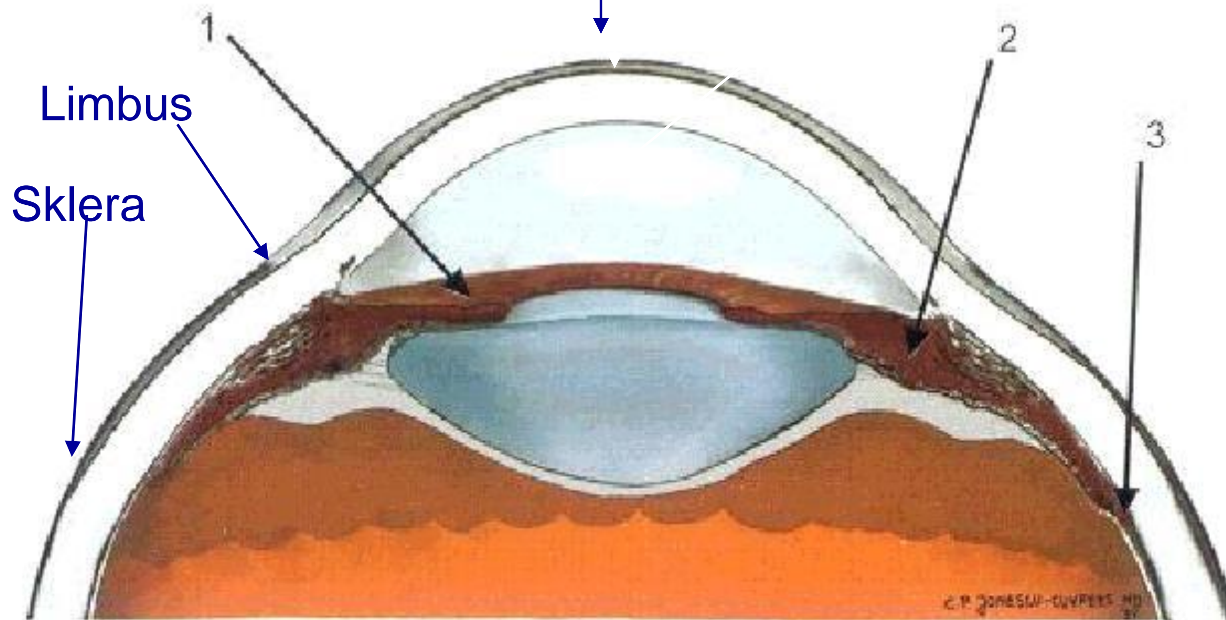
There are six layers:

1. Epithelium
2. Basement membrane
3. Bowman's membrane
4. Stroma
5. Descemet's membrane
6. endothelium



Anatomi Mata

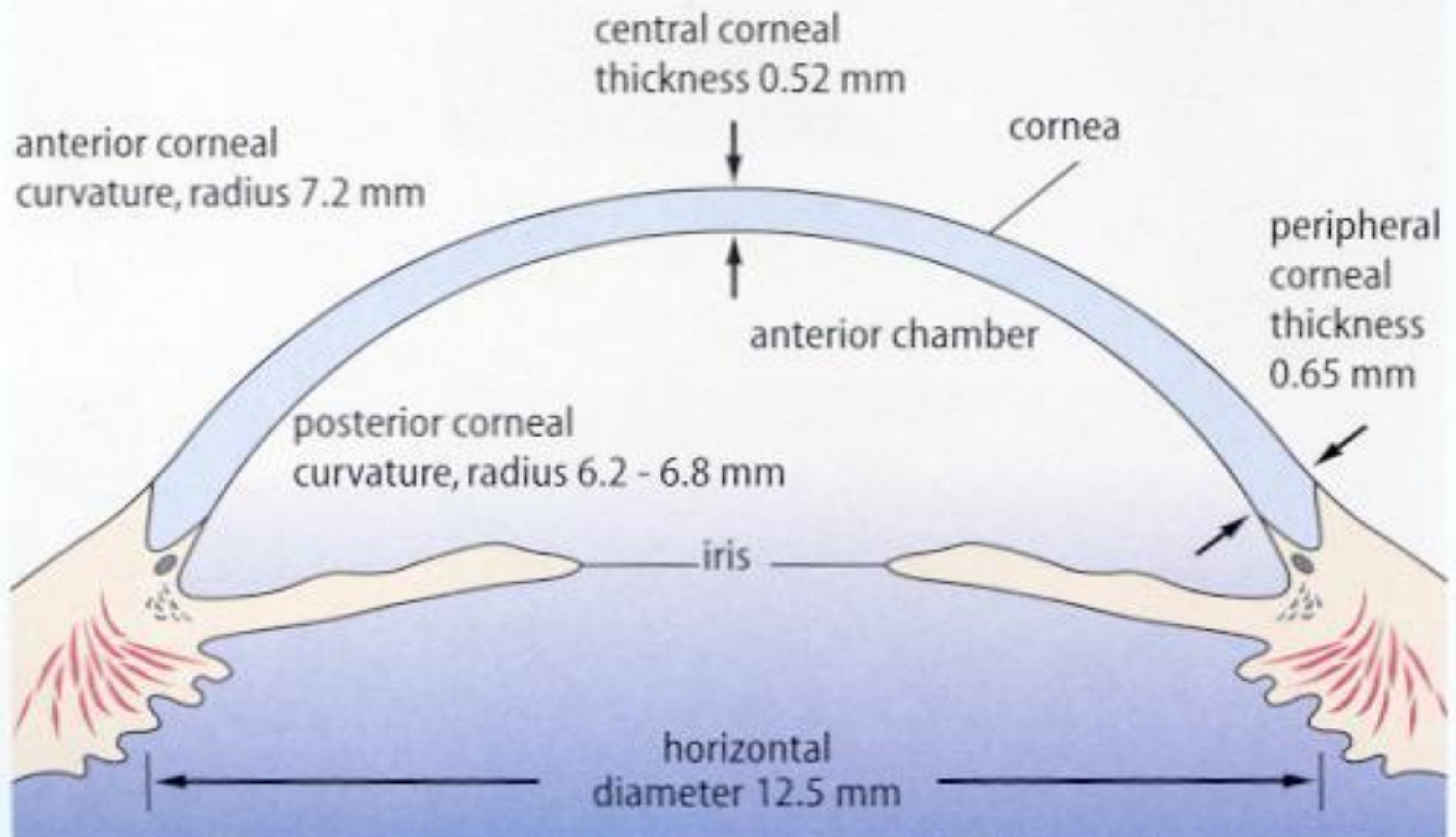
Kornea



1. **Iris**
2. **Badan siliar**
3. **Koroid**

- Diameter of adult : 12.5mm,; infant > 1 year: 10 mm
- Thickness central : 0.52 mm
- Peripheral : 0.65 mm
- Anterior corneal curvature radius: 7.2 mm
- Post.corneal curvature radius: 6.2-6.8 mm

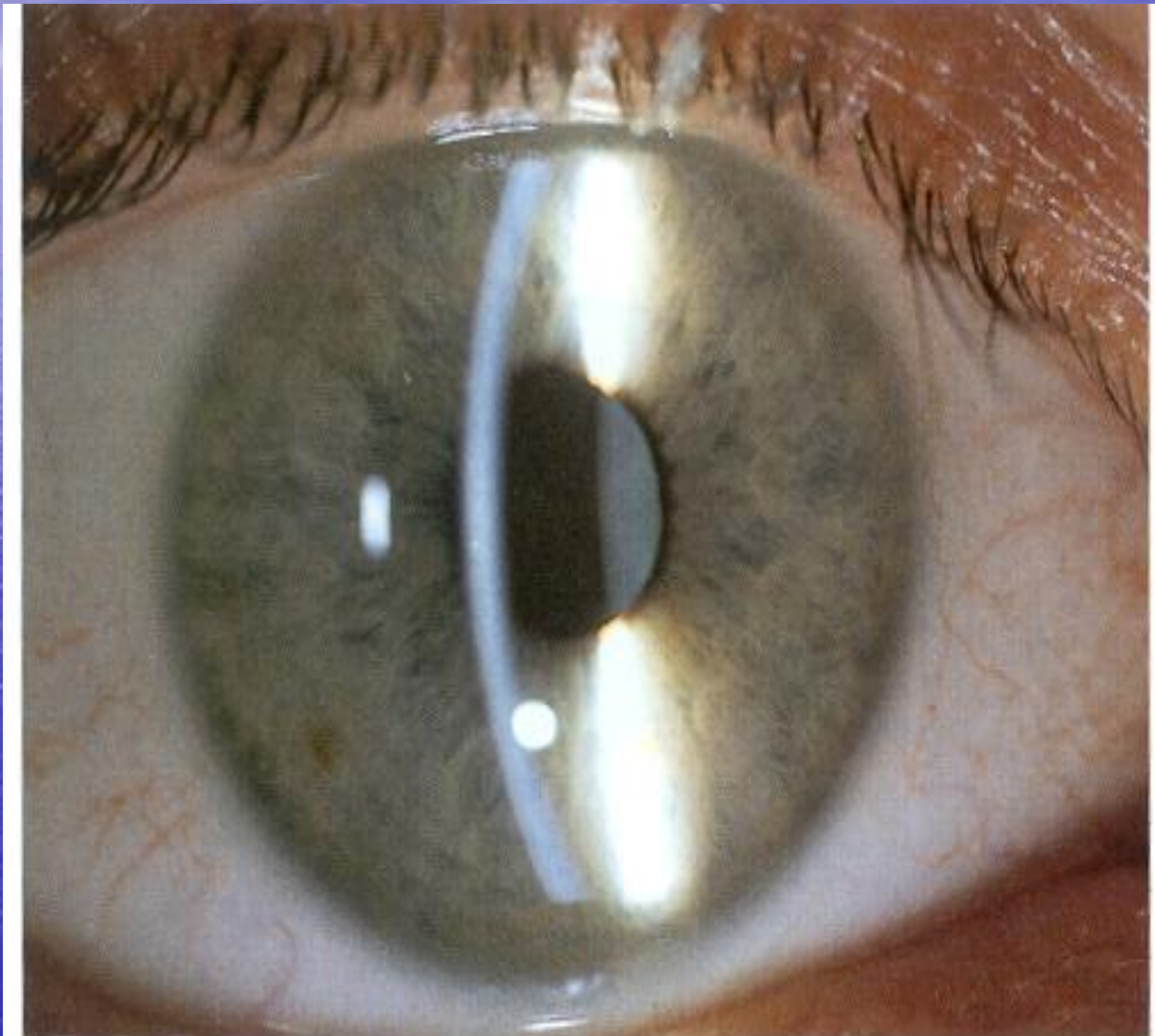
ANATOMI KORNEA

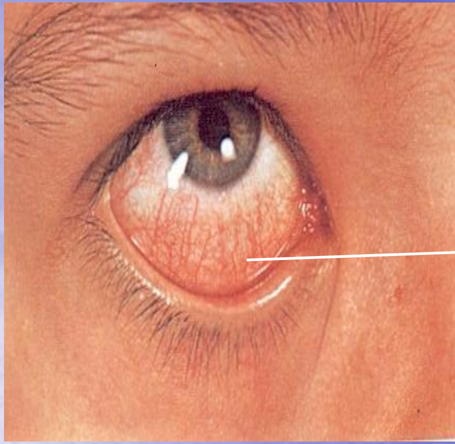


Examination techniques

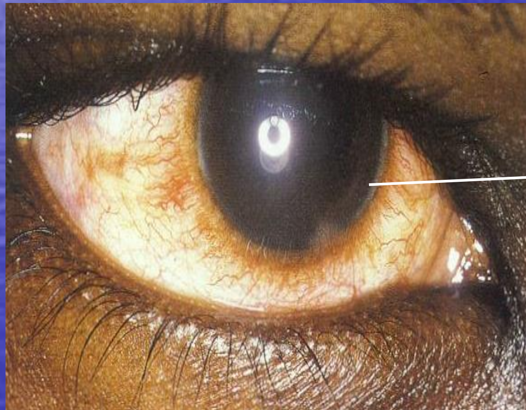
- 1. Keratoscope
- 2. Keratoscope photograph
- 3. Slit lamp
- 4. Specular microscop
- 5. Aesthesiometer
- 6. Fluorescien staining
- 7. Rose bengal staining

Corneal normal in Slit Lamp exam



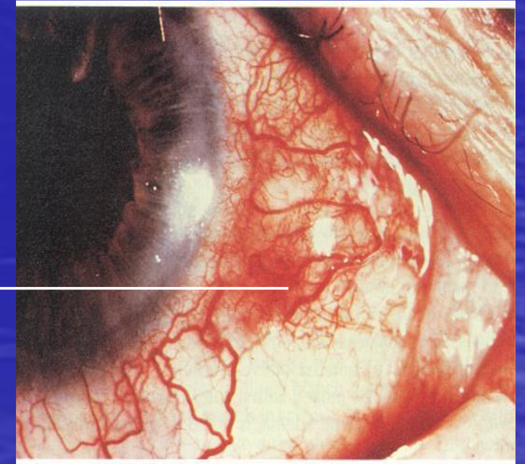


Conjunctival injection



Pericorneal injection

Seckleral injection



Corneal infection = Keratitis

Etiology :

- Bacteria
- Fungal
- Viral
- Parasite

Symptom and sign of Corneal infection

The symptom: Pain, glare, tearing and visual acuity decrease

The signs depend on the etiology:

1. Blepharospasme
2. Redness/ large vessel of the limbal (PCVI)
3. Infiltrate/ulcer on the cornea
4. Pannus

The various of infiltrate in the corneal disease

- Punctate epithelial erosions
- Punctate epithelial without erosions
- Filaments
- Line
- Disciform
- Dendritic
- Crystalline

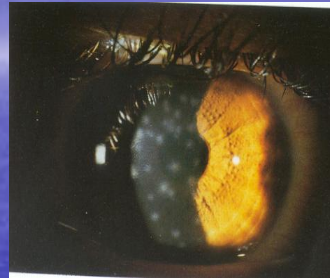


Fig. 5.41 Folds in Descemet membrane in herpetic disciform keratitis

Fig. 5.32 Early infectious crystalline keratopathy (Courtesy of M. Kerr-Muir)

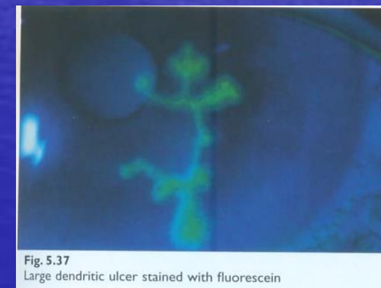


Fig. 5.37 Large dendritic ulcer stained with fluorescein

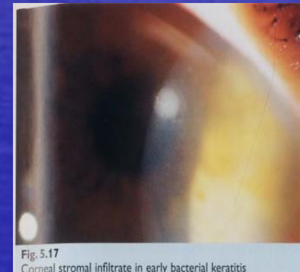


Fig. 5.17 Corneal stromal infiltrate in early bacterial keratitis

Fig. 5.45 Corneal perforation in herpetic stromal necrotic keratitis

The various of infiltrate in the corneal disease

Superficial lesions:

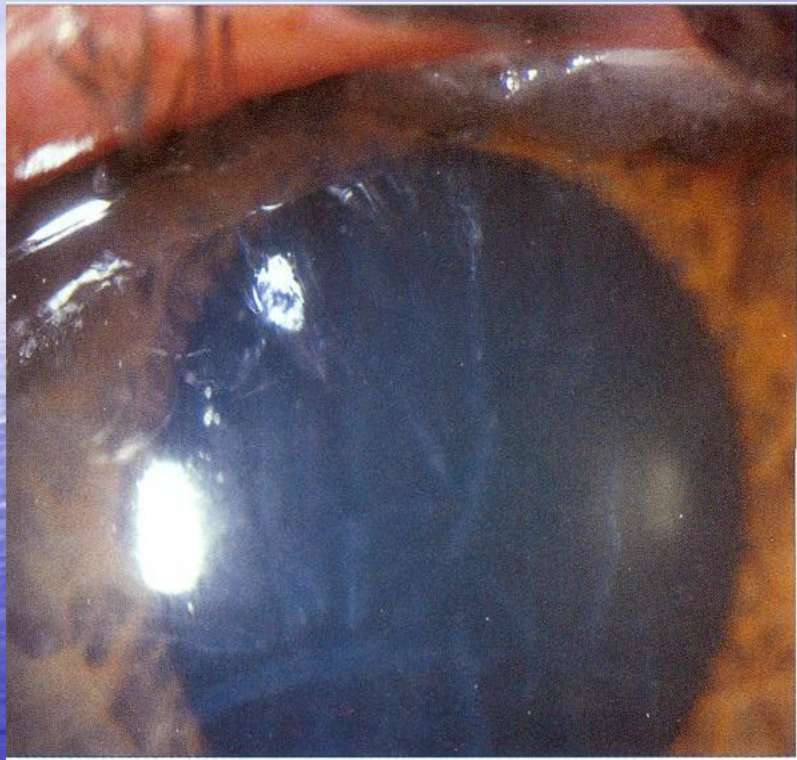
Punctate epithelial erosions: are tiny slightly depressed epithelial, fluorescein positive depend on the location:

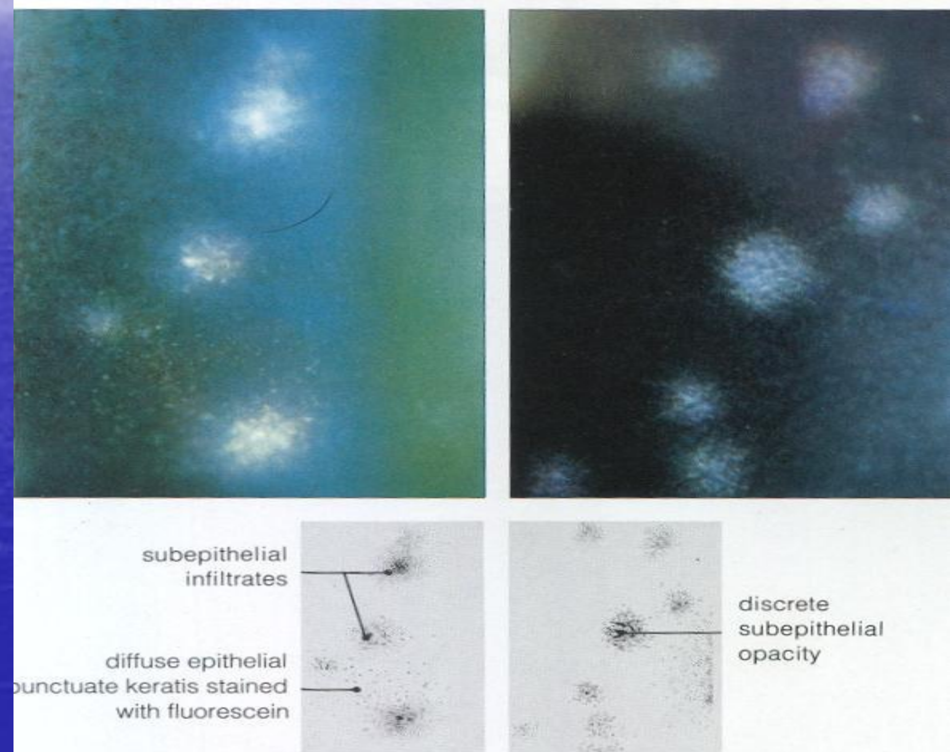
1.a. Superior : Vernal, Keratokonjunctivitis

1.b. Interpalpebral: Dry Eye, Exposure keratitis

1.c. Inferior; Lower lid margin disease, Exposure keratitis; toxicity from drops.

OEDEM KORNEA / INFILTRAT SUBEPITEL





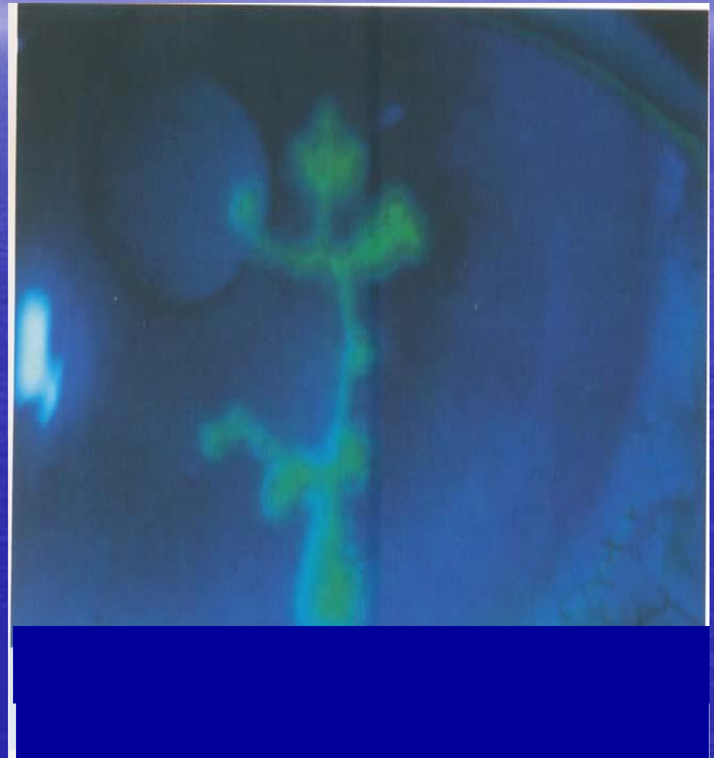
Keratitis due to Herpes Simplex

Symptom : Glare, tearing and blur

Sign Symptom:

Blephaospasmes
Pericorneal vascular injection
Characteristic picture of dendritic
Sensation of the cornea decrease – negative

Th/ antiviral drug topical and systemic
Increase of the immunity



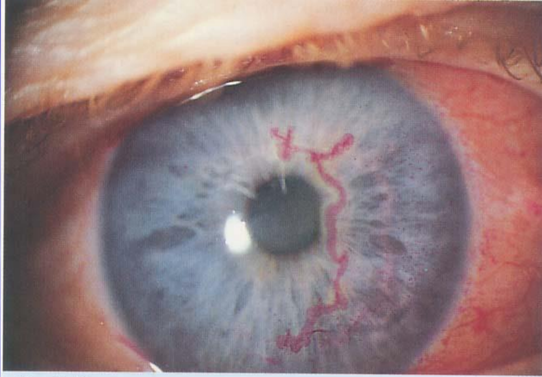


Fig. 5.38
Large dendritic ulcer stained with rose bengal

Large dendritic ulcer stained with rose bengal

Stromal corneal oedema andkeratic precipitates in herpetic disciform keratitis

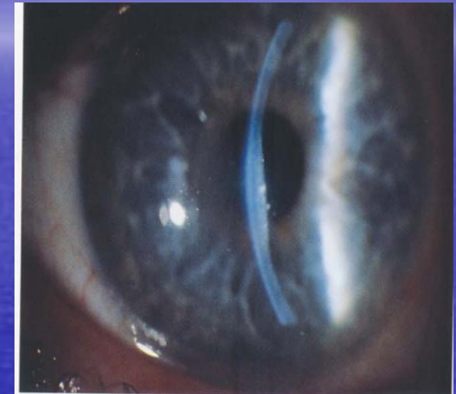


Fig. 5.40
Stromal corneal oedema and keratic precipitates in herpetic disciform keratitis

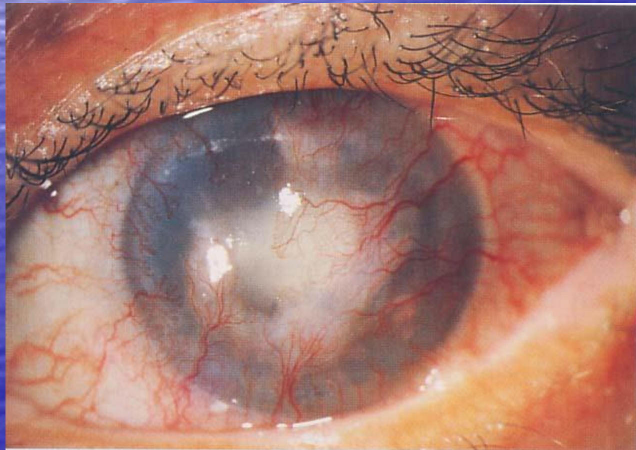


Fig. 5.44
Severe vascularization in herpetic stromal necrotic keratitis

Severe vascularization in herpetic Stromal necrotic keratitis

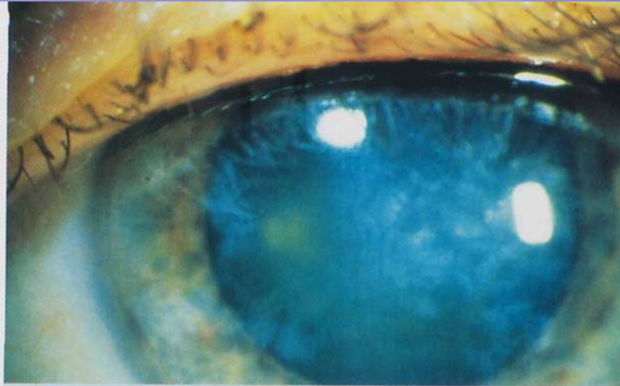


Fig. 5.31
Stromal corneal scarring in old interstitial keratitis

Stromal corneal scarring in old interstitial keratitis

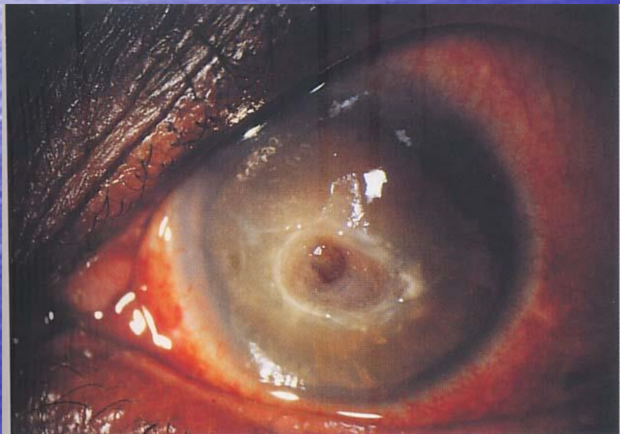


Fig. 5.45
Corneal perforation in herpetic stromal necrotic keratitis

Corneal perforation in herpectic stromal necrotic keratitis

Keratitis due to viral Herpes Zoster

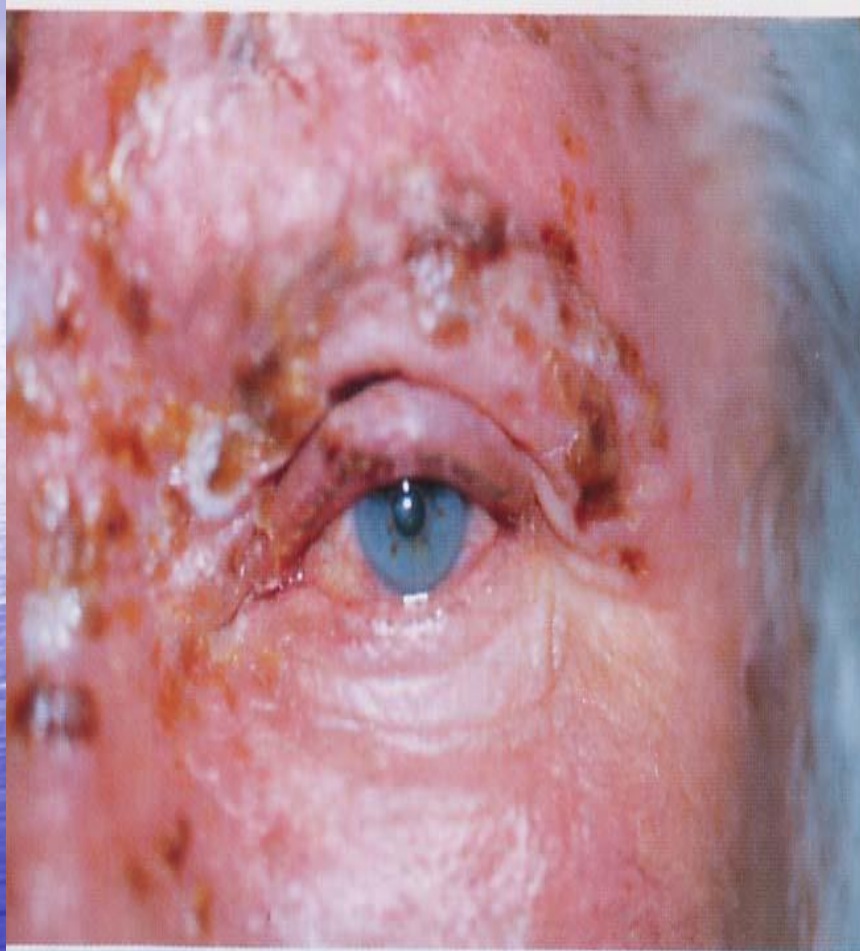


Fig. 5.46
Eyelid involvement in herpes zoster ophthalmicus

Symptom:
- **painfull, tearing, glare, blur**

Sign: unilateral vesicle on the half of Facial,
- **Edema eyelid,**
- **CVI (conjunctival vascular injection).**
- **corneal erosion**
- **fluorescein positive**

Th/: Antiviral systemic and neurotropic
- **Antibiotic eye drops and antiinflammation eye drops**

Jack J. Kanski 2003

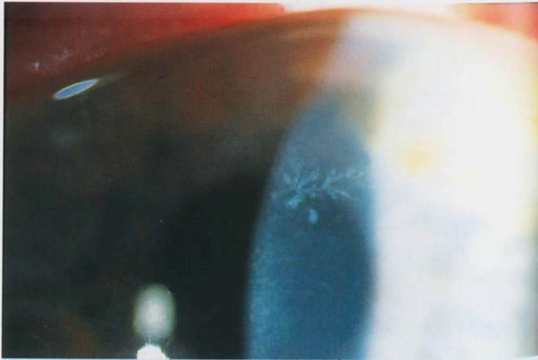


Fig. 5.47
Dendritic epithelial lesion in herpes zoster ophthalmicus

Dendritic epithelial lesion in herpes zoster ophthalmicus

Fold in descemet membrane in herpetic disciform keratitis

Fig. 5.41
Folds in Descemet membrane in herpetic disciform keratitis

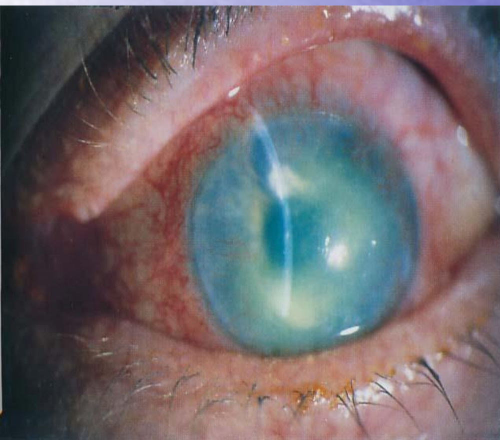


Fig. 5.43
Herpetic stromal necrotic keratitis

Herpetic stromal nectrotic keratitis

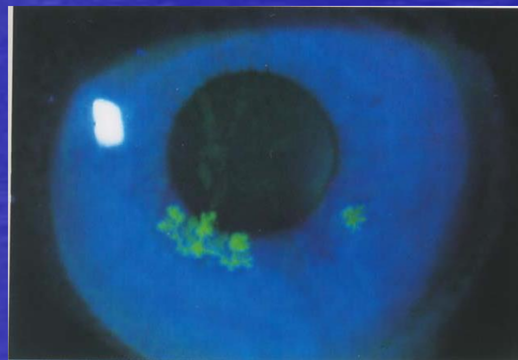
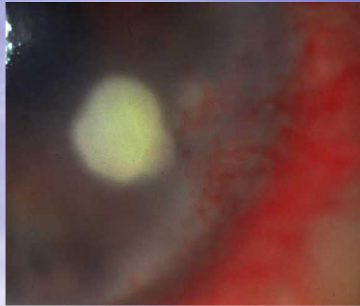


Fig. 5.36
Small dendritic ulcers stained with fluorescein

Small dendritic ulcer stained with fluorescein

Krieglstein at all 1999

Bacterial keratitis



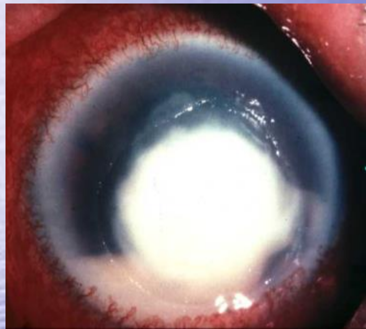
Expanding oval, yellow-white, dense stromal infiltrate

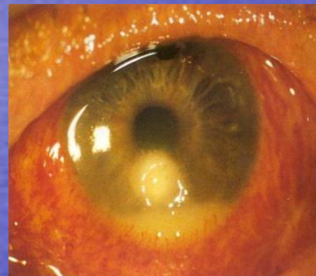
Predisposing factors

Contact lens wear

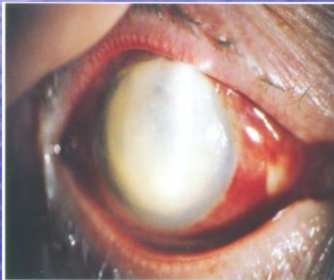
Chronic ocular surface disease

Corneal hypoaesthesia





Stromal suppuration and hypopyon

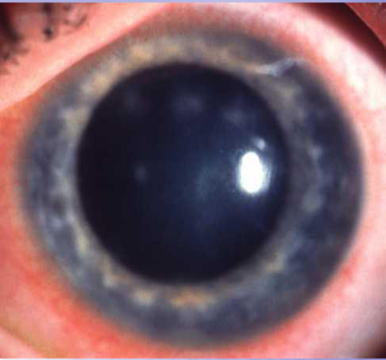


Bacterial keratitis With endophthalmitis

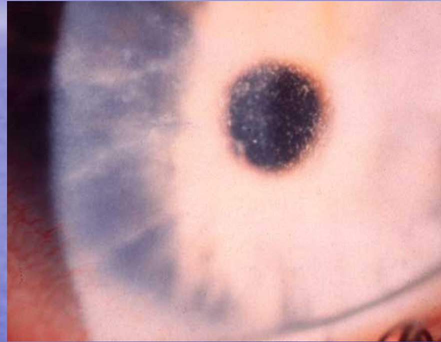
Treatment

topical ciprofloxacin 0.3 or ofloxacin 0.3%

Acanthamoeba keratitis



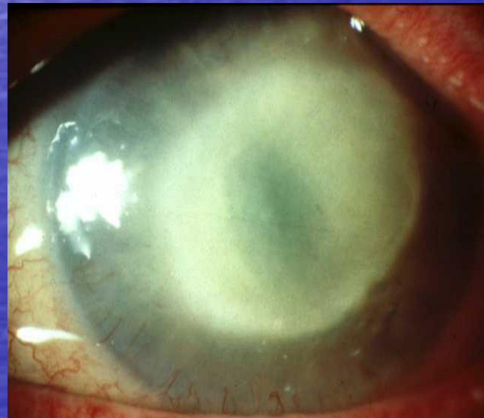
Contact lens wearers at particular risk
Symptoms worse than signs



Small, patchy anterior stromal infiltrates

Perineural infiltrates (radial keratoneuritis

Ulceration, ring abscess & small, satellite lesions



Stromal opacification

Treatment

chlorhexidine or polyhexamethylenebiguanide

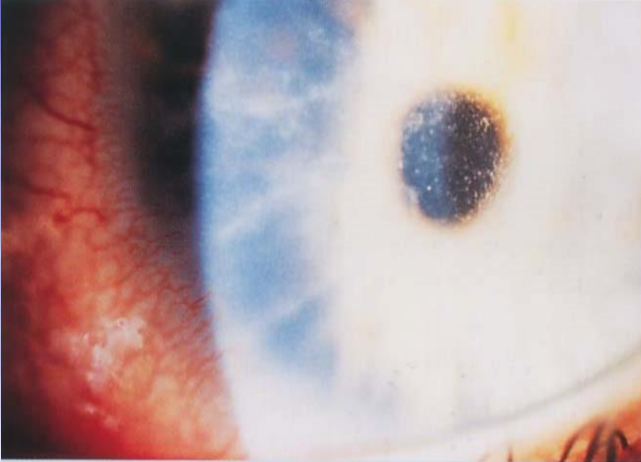


Fig. 5.25
Perineural infiltrates in acanthamoeba keratitis

Perineural infiltrates in acanthamoeba keratitis

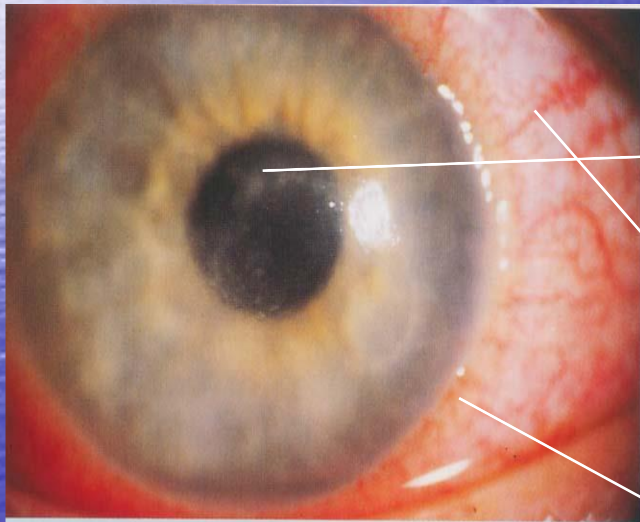


Fig. 5.26
Epithelial changes and pseudo-dendrite in acanthamoeba keratitis (Courtesy of A. Ridgway)

Epithelial changes and pseudo-dendrite in acanthamoeba keratitis

Large conjunctival vessel (CVI)

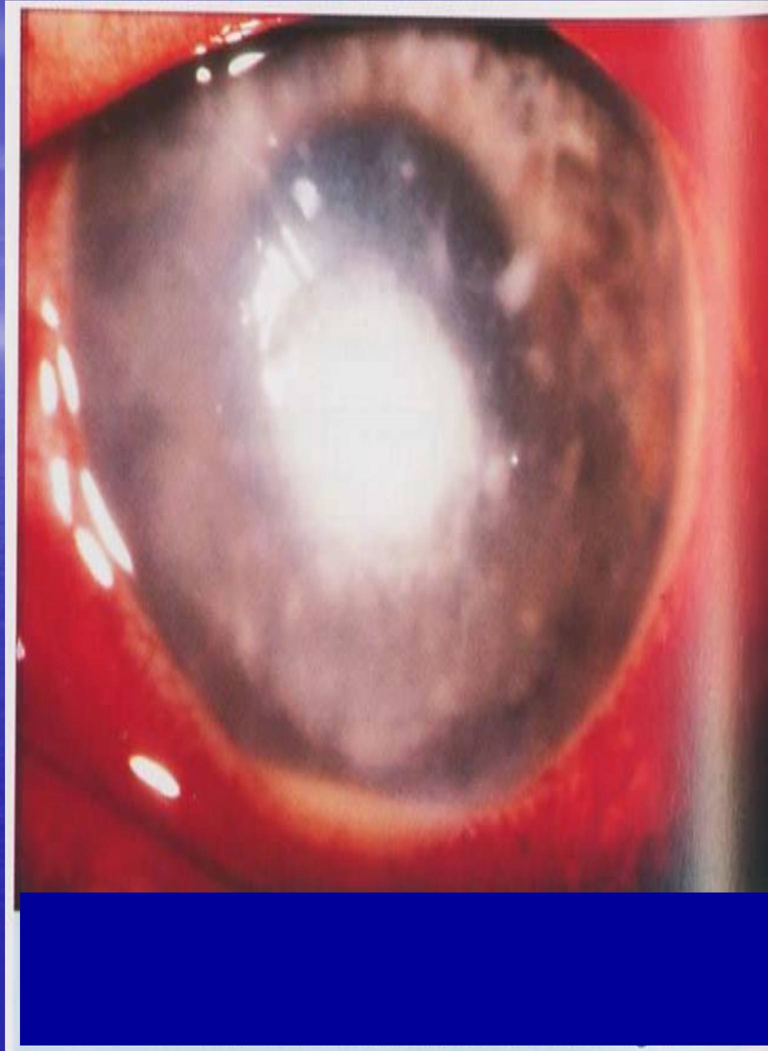
Large limbal vessel (PCVI)

Fungal keratitis = keratomycosis

- Rare,
- fungi can cause severe stromal necrosis→ anterior chamber by penetrating an intact Descemet membrane
- Once in anterior chamber, the infection is very difficult to control because to poor penetrating antimycotic agents
- E/: filament fungi and candida albicans.

Clinical feature

1. **Presentation :**
   foreign body sensation,
   photophobia,
   blurred vision, and
   discharge
   topical steroid
   enhance fungal replication,
   and corneal invasion,
   progression is much slower
   and less painful than in bacterial
   keratitis



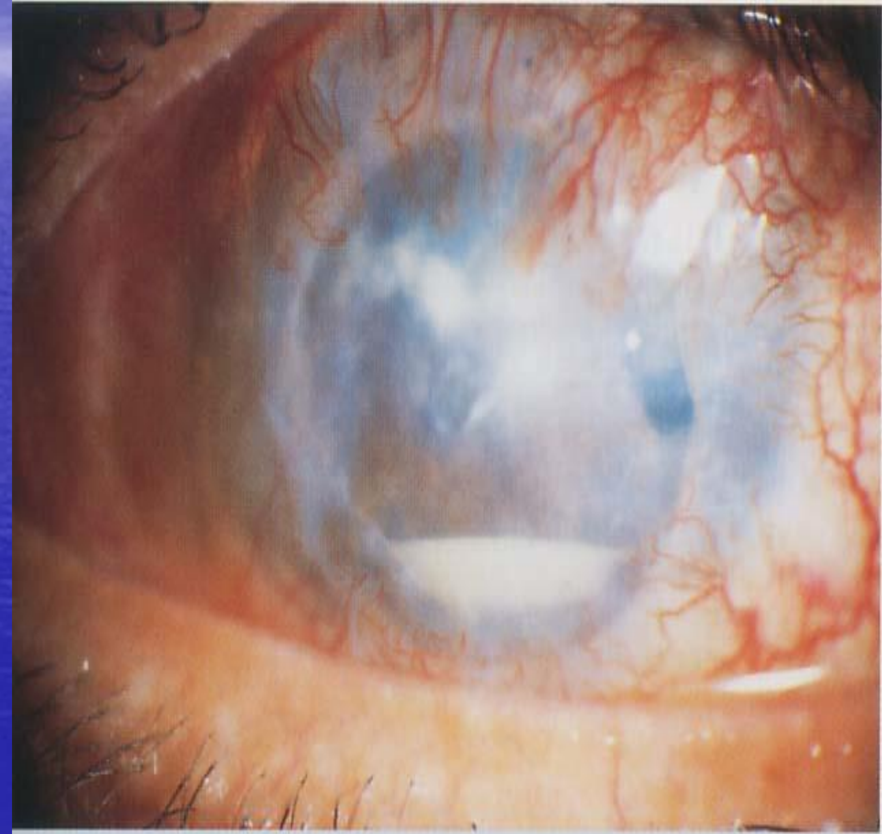
. 2. Signs vary with the infection agents

a. Filament keratitis

A greyish, stromal infiltrate with a ‘dry’ texture and indistinct margins
Surrouding, satellite, feathery, finger-like lession and immun ring infiltrate
An underlying endothelial plaque and hypopyon may be present

b. Candida keratitis:

characterized yellow-white ulcer associated with dense suppurative similar bacteria keratitis

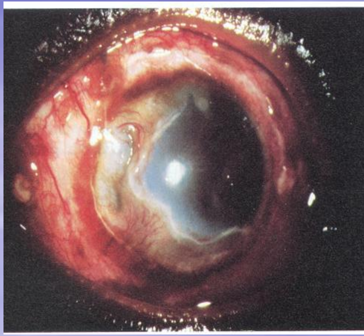


Treatment keratomycosis

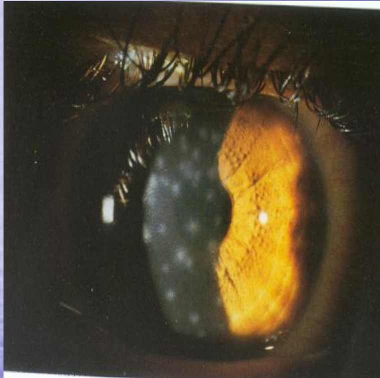
Topical antifungal agents

Systemic therapy if severe

Penetrating keratoplasty if unresponsive



Marginal ulcer



Epidemic Keratoconjunctivitis

Advanced infectious crystalline keratopathy (Courtesy of M.Kerr-Muir

Fig. 5.33
Advanced infectious crystalline keratopathy (Courtesy of M. Kerr-Muir)

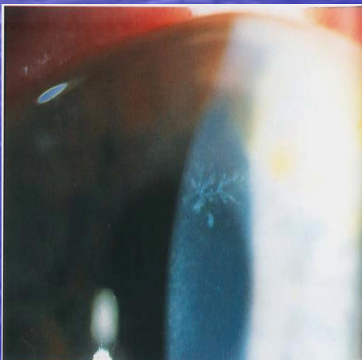


Fig. 5.47
Dendritic epithelial lesion in herpes zoster ophthalmicus

Dendritic epithelial lesion in herpes zoster ophthalmicus

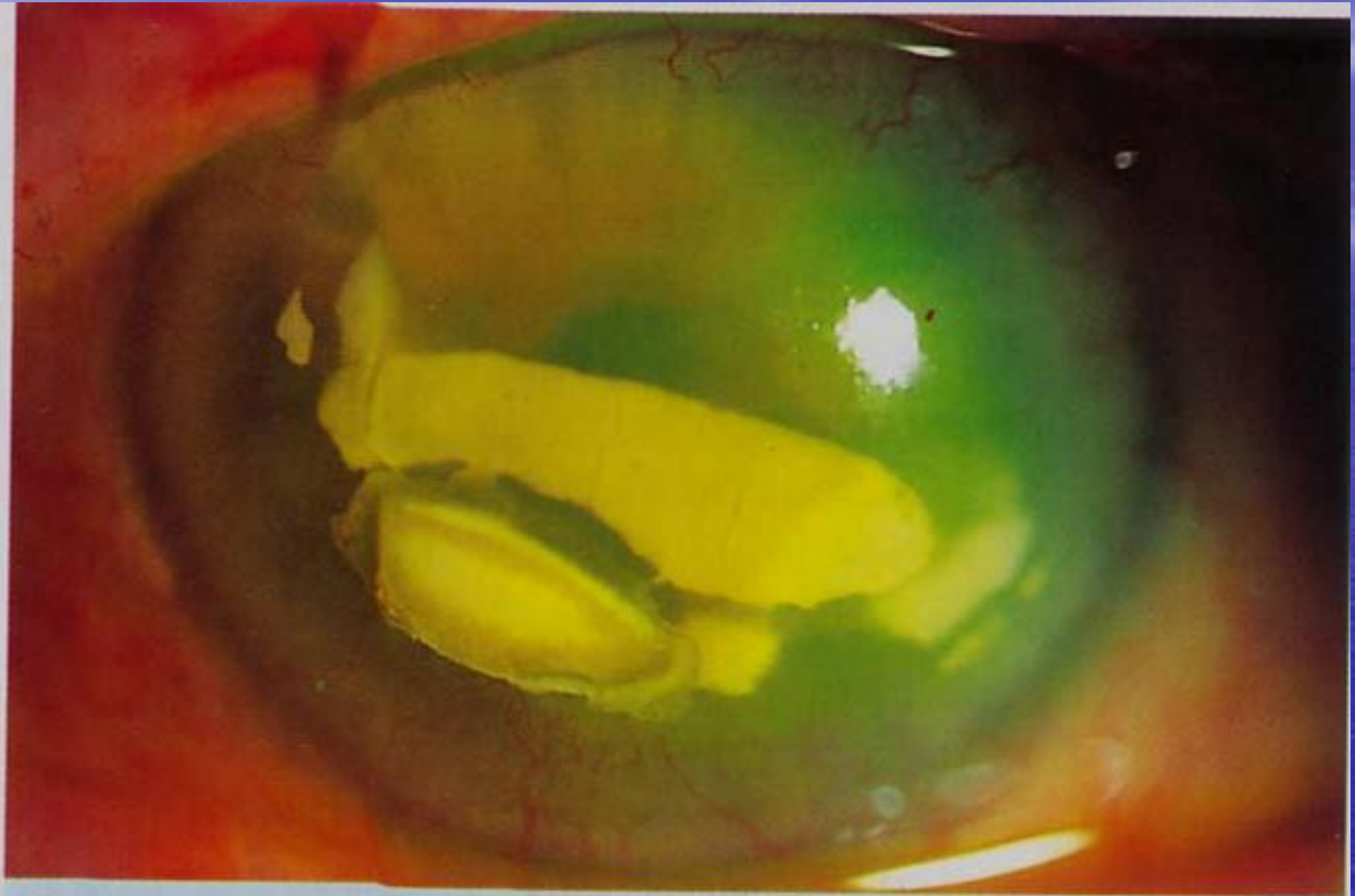


Fig. 5.21
Ciprofloxacin corneal precipitates

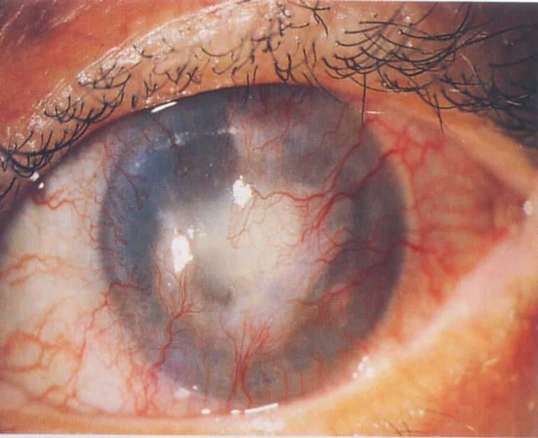


Fig. 5.44

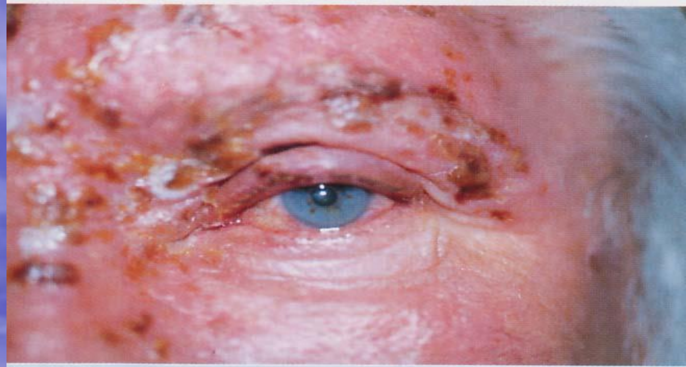
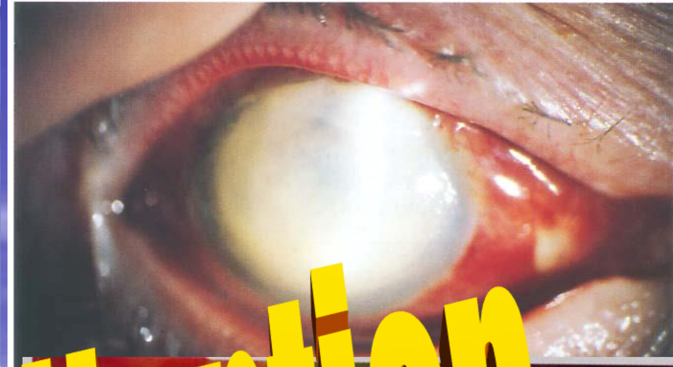


Fig. 5.46
Ey



ipitates

Fig. 5.44
Severe vascularization in h

Fig. 5.37
Large dendritic ulcer stained with fluorescein

thank you for your attention

A 40-year-old woman complain of watery, feels foreign body sensation and reports that her vision is not as clear as before The corneal sensation is decrease.

1. Mention of ophthalmology examination supporting the diagnosis
2. What is the diagnosis
3. What is the complication
4. What is the management