

CORNEAL DISEASES

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CORNEAL ULCERS (ULCERATIVE KERATITIS)

Any keratopathy in which there is loss of epithelium

CAUSES OF CORNEAL ULCERATION

1. Endogenous causes: eyelash abnormalities, eyelid disorders..
2. Exogenous causes: trauma, foreign bodies..

Corneal ulcers are common in dogs, less common in cats, especially brachycephalic cats.

Corneal Ulceration consist of the following diagnostic evaluations:

- Fluorescein staining
- Schirmer tear test
- Microbiologic assessment
- Corneal and palpebral reflex
- Eyelid, eyelash, conjunctival anatomy and function

If an animal has a nonhealing ulcer, think about the followings:

- ✓ The ulcer has become infected by a bacteria
- ✓ Treatment is unsuccessful, reexamined the underlying cause
- ✓ The ulcer has become indolent

TREATMENT

The corneal ulcer treatment is done according to the cause, chronicity, severity, whether it is complicated or not.

- Antibiotics
- Mydriatics
- Analgesics/antiinflammatory agents
- Prevention of self trauma

For the corneal ulcer treatment success, remove or correct the underlying causes.

When a corneal ulcer does not heal in 7 days, change the diagnosis.

Treatment of Deep Corneal Ulcers or Descemetocoeles

If the stroma is entirely destroyed exposing Descemet's membrane, the lesion called a descemetocoele. It does not stain with fluorescein.

- Assessment of cytology
- Culture and sensitivity testing
- Treatment is similar to simple ulcers
- Antibiotics are important and should be initiated as soon as possible
- Elizabethan collar
- Conjunctival grafts support the cornea. They provide a continuous supply of serum which contains growth factors and anticollagenases
- Third eyelid flap, tarsorrhaphy
- Anticollagenase products (especially for melting ulcers)

STROMAL ABSCESS

- When a small corneal puncture wound occurs, bacteria or fungi enter the stroma. The epithelium heals rapidly, however infectious organisms sequestered in the cornea. They can replicate and triggers an inflammatory response. This is known as a corneal abscess.
- They appear yellowish white lesions on the corneal surface.
- Corneal vascularization
- Systemic therapy (antibiotics/antifungals)

CORNEAL LACERATIONS

- Secondary to cat-scratch injuries
- They are treated the same way as corneal ulcers.

CORNEAL FOREIGN BODIES

- Small adhered foreign bodies are removed with a saline directed forcefully at the corneal surface.
- Penetrating foreign bodies are removed surgically
- Broad spectrum topical antibiotic and atropine are administered.

PIGMENTARY KERATITIS

Also corneal melanosis

Common causes are cilia disorders, tear film dysfunction, chronic exposure due to brachycephalic syndrome

Correct the underlying causes

PANNUS / ÜBERREITER'S SYNDROME / CHRONIC IMMUNE-MEDIATED SUPERFICIAL KERATOCONJUNCTIVITIS

Especially common in German shepherds and greyhounds breed dogs.

The exact etiology is unknown

Cell mediated immunity to corneal and uveal antigens has been demonstrated in affected corneas.

In the early stages, superficial stroma infiltrated by plasma cells and lymphocytes. As the process progresses, melanocytes, histiocytes and fibrocytes enter the cornea and neovascularization occur.

PANNUS / ÜBERREITER'S SYNDROME / CHRONIC IMMUNE-MEDIATED SUPERFICIAL KERATOCONJUNCTIVITIS

- In the advanced stages, superficial stroma and corneal epithelium become melanotic and vascularized. Epithelium become keratinized.
- Corneal vascularization and melanosis occur first at the temporal limbus and gradually move centrally.
- External surface of third eyelid is thickened.
- Mucoïd ocular discharge is common.
- Severity of the disease varies with age. In young animals (age 1-2 years) the condition progresses to severe lesions, whereas dogs affected at a later age (4-5 years) have less severe lesions.
- Protect animals from sun light, also UV exposure.
- Pannus is a chronic disorder that cannot be cured.
- The goal should be regression and control of the lesions, so that blindness can be avoided. For this purpose, corticosteroid and cyclosporine eye drops should be used.