CORNEAL ULCERATION

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**DIAGNOSIS**

Simple ulcer
- Typically acute
- May occur in any signalment
- Distinct edges and/or margins

Evaluate for underlying cause of ulceration

**DIAGNOSIS**

Indolent ulcer (SCCED)

Confirm patient age (older age [eg, 7-9 years] associated with SCCED) and absence of contributing ocular disorders (eg, entropion, lid mass, KCS)

**DIAGNOSTIC/MANAGEMENT TREE**

- **CORNEAL ULCERATION OBSERVED**
  - Corneal stromal loss, infiltrate, or malacia present?
    - **NO**
    - Lipping epithelial edges and chronicity present?
      - **NO**
      - Dogs
      - **YES**
      - Cats
    - **YES**
    - Go to Complex Ulcer, next page
  - **YES**
    - Corneal stromal loss, infiltrate, or malacia present?
      - **NO**
      - Fluorescein negative and patient comfortable?
        - **NO**
        - Repeat cotton tip debridement
        - ± grid keratotomy, anterior stromal puncture, or diamond burr keratotomy
        - Continue medical therapy
        - **YES**
        - Discontinue therapy
      - **YES**
      - TREATMENT
        - Topical broad-spectrum antibiotic (eg, fluoroquinolone, erythromycin, oxytetracycline)
        - Debridement of ulcer
        - Grid keratotomy should be avoided due to increased risk for corneal sequestrum formation
        - ± swab for FHV-1 PCR
        - ± topical or systemic antiviral agent

**DIFFERENTIALS**

- Feline herpes
- Mechanical lesion (eg, entropion, distichia)

**TREATMENT**

- Elizabethan collar
- Topical broad-spectrum antibiotic 3-4 times daily
- ± topical atropine as needed for pain/reflex uveitis*
- ± oral NSAID
- ± grid keratotomy, anterior stromal puncture, or diamond burr keratotomy to speed healing
- Recheck in 10-14 days

FHV-1 = feline herpesvirus type 1
KCS = keratoconjunctivitis sicca
SCCED = spontaneous chronic corneal epithelial defects

*Atropine should be used with caution in patients with KCS and glaucoma; less atropine is needed when uveitis or complex ulcer is not present.

† Oral tetracyclines are not indicated unless the patient has an upper respiratory infection caused by *Mycoplasma* spp or *Chlamydophila felis*.
**DIAGNOSIS**

**COMPLEX ULCER**

Evaluate for underlying cause of ulceration

**TREATMENT**

- Based on cytology results (pending culture):
  - Rods: Consider aminoglycoside or fluoroquinolone as first-line topical medications
  - Cocci: Consider triple antibiotic as first-line medication
  - Ulcer with infiltrate: Infection should be assumed, even if no bacteria or fungal organisms noted on cytology
  - Evaluate previous and/or current medications when choosing topical therapy
  - Change drug class if conditions worsen on current medical therapy
  - Frequency (eg, 4-12 times daily) of topical medications depends on severity
  - Topical serum or plasma drops recommended to treat melting corneal ulcers (eg, corneal malacia) until edges of ulcer become sharply defined
  - Elizabethan collar
  - Atropine (1-2 times daily), if not contraindicated
  - ± oral NSAIDs, if not contraindicated
  - Recheck frequently (eg, every 1-3 days)

**DIFFERENTIALS**

- KCS
- Trauma

**DIAGNOSIS**

Lagophthalmos

**DIFFERENTIALS**

- Brachycephalic conformation (bilateral)
- Facial nerve paralysis (often unilateral)
- Exophthalmos (eg, abscess, cellulitis, neoplasia, mucocele, cyst, myositis, salivary gland inflammation) secondary to orbital disease (unilateral)
- Buphthalmos secondary to chronic primary or secondary glaucoma (unilateral or bilateral)

**TREATMENT**

- Temporary tarsorrhaphy to limit exposure, if needed
- Long-lasting topical lubricating ointments or gels
- Topical broad-spectrum antibiotic
- Tear stimulants (eg, cyclosporine) when healed
- Atropine use should be limited
- Weekly rechecks until patient is healed

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KCS = keratoconjunctivitis sicca

STT = Schirmer tear test
DIFFERENTIALS
- Nasal fold trichiasis secondary to conformation
- Medial canthal entropion secondary to conformation
- Foreign body behind third eyelid
- Eyelid mass

DIFFERENTIALS
- Ectopic cilia
- Distichia
- Entropion
- Eyelid mass

TREATMENT
- Surgical correction of eyelid and/or conformational abnormality
- Removal of foreign body or mass, if indicated
- Lubricating broad-spectrum topical antibiotic
- Elizabethan collar
- Recheck after 1 week

Nasal ulceration
Dorsal, ventral, or lateral ulceration