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)

TREATMENT

Elizabethan collar
- Topical broad-spectrum antibiotic 3-4 times daily
- ± topical atropine as needed for pain/reflex uveitis*
- ± oral NSAID

Cotton tip debridement of loose epithelial edges
- Elizabethan collar
- Topical broad-spectrum antibiotic (eg, triple antibiotic ointment or solution [eg, neomycin–polymyxin–bacitracin], fluoroquinolone)
- Topical atropine as needed for pain
- ± bandage contact lens
- ± oral NSAID
- ± topical or oral tetracycline to speed wound healing
- Additional recommended treatment (eg, grid keratotomy, anterior stromal puncture, diamond burr keratotomy) to speed healing
- Recheck in 10-14 days

Fluorescein negative and patient comfortable?

TREATMENT

Elizabethan collar
- 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

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 Chlamyphila felis.

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**DIAGNOSIS**

**COMPLEX ULCER**

Evaluate for underlying cause of ulceration

- Collect samples from lesion edges
  - Corneal cytology
  - Corneal aerobic culture and susceptibility (± fungal or anaerobic) testing

- Determine ulcer location to identify underlying cause and formulate treatment plan

**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)

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**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**

- 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

- Temporary tarsorrhaphy to limit exposure, if needed
- Long-lasting topical lubricating ointments or gels
- Topical broad-spectrum antibiotic
- Treatment of underlying disease process
- Weekly rechecks until patient is healed
DIFFERENTIALS
- Nasal fold trichiasis secondary to conformation
- Medial canthal entropion secondary to conformation
- Foreign body behind third eyelid
- 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