

Peer Reviewed

# Feline Stomatitis

Oral inflammation is a nonspecific indication of pathology and does not signify whether a patient has stomatitis as a result of an incompetent immune response or an exuberant response to stimulation.

The incidence of stomatitis within the general population of cats, while variable, is generally considered to be low.<sup>1</sup>

Given the much higher incidence of periodontal disease and resorptive lesions recognized today in the pet population, all causes of oral inflammation should be ruled out or treated until chronically inflamed oral tissues cannot be attributed to a pathology other than stomatitis.

## Perform preanesthetic diagnostics & provide supportive care

- Test all patients for FeLV and FIV, regardless of age
  - A false-positive FIV response can result when a cat is vaccinated against FIV
- Conduct serum biochemistry panels and CBC to determine if other causes of immunosuppression might exist
  - Other potential causes include diabetes mellitus, disseminated lymphoma, or advanced renal or thyroid dysfunction
  - Immunosuppressed animals should not receive antiinflammatory medications, as they can further suppress the ability to control oral infection
  - Serum biochemistry panels can assess ability to tolerate anesthetics and may exclude specific therapies
- Testing for calicivirus or presence of *Bartonella* spp has limited value
  - A positive response should not influence treatment of the oral cavity
  - Treat comorbidity if patient shows signs of active bartonellosis, especially given its zoonotic potential<sup>2</sup>
    - Because azithromycin and doxycycline have



## How I Treat Feline Stomatitis

- Perform preanesthetic diagnostics & provide supportive care
- Perform diagnostics, assessment, & treatment while patient is anesthetized
- If inflammation persists after healing period, extract remaining teeth
- Reassess the patient
- If extractions were insufficient, administer medications
- Follow up

CONTINUES

Diagnostics, assessment, and treatment for stomatitis should be performed while the patient is anesthetized.



antiinflammatory effects unrelated to their antibacterial activity, do not interpret initial improvement as indication of complete and successful therapy<sup>3,4</sup>

- Nutritional support can be crucial to preoperative stabilization
  - Place esophageal feeding tube to provide 20–30 calories/lb/day based on ideal body weight
  - Give preoperative fluid support (IV or via esophageal tube), warmth, and analgesics to help facilitate recovery

**☑ Perform diagnostics, assessment, & treatment while patient is anesthetized**

- Initial anesthetic visit: full-mouth radiography, removal of compromised teeth, thorough cleaning and polishing, and biopsy of focal inflammation/irregular tissue or if autoimmune disease is suspected

**For Juvenile Patients**

- Perform radiography of all inflamed areas
  - Assess for normal numbers of teeth, normal tooth development and placement, presence of cysts or developmental tumors/abnormalities; treat as needed
- Assess for infected dental sac; perform operculectomy and administer antibiotics as appropriate
- If there is suspicion that inflammation may be physiologic secondary to tooth eruption, rinse oral cavity with chlorhexidine-based rinse and clean/polish teeth +/- fluoride application +/- barrier sealant
- If excessive inflammation persists after complete tooth eruption (may be accompanied by feline proliferative gingivitis), same care plus gingivectomy may be required
  - Institute ongoing plaque control (home care) with regular reassessment and oral care to arrest this inflammatory tendency
    - Low-dose doxycycline therapy may assist with initial control, and esterified fatty acids may prove to be of value in future studies
  - Plaque-revealing solutions and methods may help determine if plaque control is effective

- If gingivitis does not respond to professional therapy and plaque control, early-onset stomatitis may be present

**For Adult Patients**

- Begin multimodal analgesia as soon as possible
  - Options include presurgery gabapentin, premedication with narcotic and/or  $\alpha_2$ -agonist, local blocks with narcotic added to increase duration and effect,<sup>5</sup> ketamine CRI, antiinflammatories during recovery, and narcotics for home use (buprenorphine, fentanyl patch)
- Place esophageal feeding tube (if not done earlier) if patient is debilitated
- Stomatitis is rarely unilateral or focal
  - Biopsy of the focal area may be warranted; where inflammation is generalized, biopsy tends to be nonproductive except if other signs of autoimmune disease coexist
- Culturing the mouth is usually unproductive
- Rub moist cotton swab over plaque lesion and roll across a slide for cytology
  - Populations of eosinophils or fungal agents may help direct therapy
- Rinse oral cavity with chlorhexidine-based rinse
- Acquire full-mouth radiographs to assess tooth numbers, placement, and health, as well as quality of alveolar bone
- Extract any teeth compromised by tooth resorption, periodontal disease, fracture, or heavy wear or causing soft tissue contact/trauma
- Thoroughly clean and polish any remaining teeth, +/- apply barrier product

**☑ If inflammation persists after healing period, extract remaining teeth**

- If owner cannot provide regular professional care and daily plaque control, reanesthetize and perform caudal (or full-mouth) extractions
- Take dental radiographs to confirm removal of all tooth material
  - Even teeth with resorption lesions must have roots removed
  - Crown amputation should not be used in stomatitis cases
- Suture *all* extraction sites with absorbable 5–0

suture material using a swedged-on needle that dissolves in ~14 days

- Discharge patient with buprenorphine or fentanyl patch
- Dispense antibiotics if patient shows evidence of osteomyelitis and/or is immunocompromised
  - Antibiotic choice should be bactericidal instead of bacteriostatic, liquid instead of pill (unless owner has indicated otherwise)
- Prognosis after extractions: 50%–60% clinically cured, and 30%–40% significantly improved with only occasional medication for good quality of life<sup>6,7</sup>

### ✓ Reassess the patient

- Call the owner 1 day after surgery to ensure patient is eating and acting normally
  - Adjust analgesic dose or frequency, depending on patient's behavior
- Request in-office reassessment 7–14 days postsurgery to gauge healing and level of inflammation
  - Revisit in another 14 days if improvement is poor

### ✓ If extractions were insufficient, administer medications

- Start  $\omega$ -interferon or cyclosporine treatments

#### Recombinant Feline $\omega$ -Interferon

- Interferon reportedly has antiviral and anti-inflammatory activity
- Several protocols for feline  $\omega$ -interferon are available
  - Current literature and ongoing studies suggest low-dose oromucosal administration is most effective with minimal adverse events<sup>8</sup>
    - Protocol includes mixing a 10-MU vial into 100-mL saline, dividing into and then freezing 10-mL vials, thawing 1 vial at a time and administering 1 mL by mouth q24h (~100,000 IU)
- Use of species-specific interferon avoids development of neutralizing antibodies that manifest with human  $\alpha$ -interferon

#### Cyclosporine

- Alternative treatment if cats are immunocompetent and do not respond to extractions or if  $\omega$ -interferon cannot be acquired

- Should not be given to immunocompromised patients
- Perform pretreatment CBC and renal function tests, as possible adverse reactions include anemia and renal dysfunction
- Cyclosporin A (Atopica, atopica.com; Neoral, neoral.com) strongly recommended, as bioavailability differs among products
  - Begin at 2–2.5 mg/kg q12h
  - Retest renal and CBC values at 3 weeks
  - Test blood cyclosporine levels at 6–8 weeks to ensure minimum value of 300 ng/mL
    - If blood value is too low, adjust dose to as much as 5 mg/kg q12h
- Prognosis using cyclosporin A after extractions: large majority of previously unresponsive cats improve; poor response usually attributed to idiosyncratic low levels of cyclosporine absorption and suboptimal blood levels
  - Increased doses allowed improvement of blood levels in most of these suboptimal absorbers and corresponding improvement of oral inflammation<sup>9</sup>

### ✓ Follow up

- If any teeth remain, daily plaque care is essential and should include daily brushing, appropriate dental diet if patient has sufficient teeth to chew kibble-based food, water additives to control oral plaque, and regular professional care
  - In edentulous patients, consider using water additive (HealthyMouth, healthymouth.com) for plaque control on other oral surfaces (tongue, alveolar ridges) and switching diet to novel protein/carbohydrate
- Be aware that immunostimulation (allergens, vaccines) can trigger stomatitis again

See Aids & Resources, back page, for references & suggested reading.

### FOR MORE...

See **Management Tree** on page 101 for an algorithm on oral inflammation in cats.

Request an in-office reassessment 7 to 14 days after surgery to gauge healing and inflammation.