Gingivostomatitis in Cats

Jeanne R. Perrone, CVT, VTS (Dentistry)
Tampa Bay Veterinary Specialists

Gingivostomatitis is chronic active inflammation of the oropharyngeal mucosa and submucosa. Patients with the disease present with erythematous, ulcerative, and/or proliferative lesions (**FIGURE 1**). Lesions are commonly found on the gingiva, buccal mucosa, lips, palatal glossal folds, lateral pharyngeal walls, and lateral aspects of the tongue.[1,2]

Glossary[a]

Dysphagia—difficulty swallowing

Ptyalism—excessive secretion of saliva

[a]Blood D, Studdert V, eds. *Saunders Comprehensive Veterinary Dictionary*. 2nd ed. Philadelphia: Saunders; 1998.

Etiology and Predisposition

The etiology of this disease is currently unknown. Bacterial, viral, and immunologic causes are being investigated, namely plaque bacteria, calicivirus, herpesvirus, coronavirus, *Bartonella* spp, FeLV, FIV, and immune reaction.[1,2]

There is no sex, age, or breed predilection, but purebred cats such as Persians, Abyssinians, Siamese, Burmese, and Himalayans tend to develop a more severe form of the disease.[1] The median age at presentation is 7 years.[1]

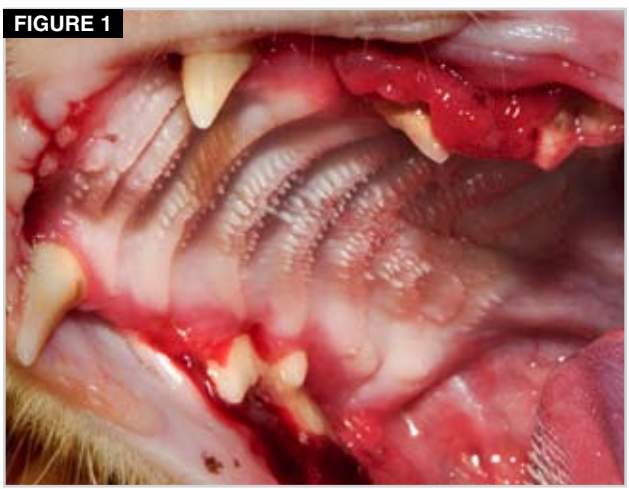
Clinical Presentation

The most common clinical signs are halitosis, blood-tinged saliva, ptyalism, dysphagia, difficulty opening the mouth, and weight loss secondary to anorexia. These cats become less active, are reluctant to groom themselves, and can show signs of aggression.[1] It is important to remember that these patients are extremely painful, so caution must be used when performing the oral examination. Sedation is sometimes needed for a thorough oral examination.

The clinical signs can be highly variable, depending on the individual patient's response to the cause. Bonello[1] describes two types of this disease:

- **Type 1** is almost congenital; signs begin to appear as soon as the deciduous teeth erupt. This form continues throughout life in most affected patients. It is thought to be acquired transplacentally or to be a hereditary immune condition.
- **Type 2** typically presents at approximately 7 years of age and continues throughout life. Some patients may exhibit mild signs early in the progression of the disease and then later fail to respond to conservative therapy, developing severe lesions.

FIGURE 1



Inflamed proliferative tissue covers the teeth.

Diagnostics

Before treatment, it is important to obtain a thorough patient history from the owner to establish a timeline and assess previous treatments. Blood work should consist of a complete blood count and a serum chemistry profile. This establishes a baseline, as some of the drugs that will be given need to be monitored to assess their effects on the body and their levels in the bloodstream. Blood work can also reveal dehydration and other complications of the disease or underlying condition. FeLV, FIV, calicivirus, and *Bartonella* infections may hinder disease management; testing for these diseases can rule out these causes of gingivostomatitis.

Treatment

The goal of therapy is to control or manage the disease. Because some affected cats are extremely debilitated, initial

FIGURE 2

Gingivostomatitis affecting the entire interior of the oral cavity.

A patient with gingivostomatitis after extraction of the mandibular premolars and molar on one side of the mouth.

treatment may include hospitalization, IV fluid therapy, placement of a feeding tube, and administration of IV antibiotics as well as injectable medications to control pain and reduce inflammation (**BOX 1**). The response to treatment is temporary; relapses are expected.[1,2]

Pain Management

Because this condition can cause extreme pain, common analgesics (e.g., buprenorphine, butorphanol, fentanyl patches) are used to provide short- and long-term comfort.[1,2] The cat should be fed soft food until it is willing or able to eat solid food. Severely painful patients should be fed through an esophagostomy tube.

Antimicrobials

Commonly used antibiotics are azithromycin, amoxicillin, amoxicillin–clavulanic acid, clindamycin, metronidazole, and doxycycline.[1,2] The choice of antibiotic should be based on the results of diagnostic testing and the patient's response. Treatment takes several weeks. When possible, liquid formulations are preferable because cats with oral pain resent being pilled. In addition, transdermal preparations from compounding pharmacies are available for some antimicrobials.

BOX 1

Drug Therapies for Managing Gingivostomatitis

- Analgesics
- Antiinflammatories (steroidal)
- Antimicrobials

Corticosteroids

Corticosteroids can be beneficial approximately 70% to 80% of the time.[2] They should be administered for 4 to 6 months and the dose gradually decreased until the lowest effective dose is reached.

Dental Therapy

The presence of plaque bacteria may stimulate inflammation. Temporary comfort can be provided by regular dental cleanings combined with home care to remove plaque bacteria.

Teeth with odontoclastic resorptive lesions, which may be caused by inflammation, should be extracted as indicated.

Gingivoplasty

If the proliferative form of this disease is present, removal of excess tissue can be beneficial.

Secondary Therapies

Use of the following therapies has been discussed in the literature: gold salts; immunostimulants such as interferon-α, bovine lactoferrin, and shark cartilage; laser surgery to remove inflamed tissue; and immunosuppressants such as azathioprine and cyclophosphamide. There are no promising research findings at this time.

Tooth Extraction

Tooth extraction should be considered when medical treatment is no longer improving the patient's condition or when unstable or damaged teeth are contributing to the problem. Sometimes, dental radiographs must be obtained (with the patient under anesthesia) to identify unstable or damaged teeth. The aim of surgical treatment is to decrease inflammation by removing plaque bacteria and treating diseased teeth. It is important to note that it is impossible to permanently remove all plaque bacteria from the mouth. The bacteria along the base of the tongue are enough to cause an inflammatory response. In general, 60% of extractions result in complete resolution, 20% in minimal inflammation, 13% in partial improvement requiring continued medical therapy, and 7% in no improvement.[1]

Inflammation can affect specific teeth—usually the premolars and molars. In these cases, teeth can be extracted in

FIGURE 3

A patient with an esophagostomy tube.

stages (multiple surgeries) if an extraction is taking too long because of complications or if the owner does not want all of the teeth removed at one time (e.g., for cosmetic reasons)[1] (**FIGURE 2**).

Preoperative radiographs must be obtained to plan the extraction procedure for each tooth. All roots must be removed. Along with the use of general anesthesia, multimodal pain management using nerve blocks and injectable medications should be provided.[1,2] All proliferative tissue should be removed. All teeth that are not removed must be cleaned, polished, and treated with an oral antiseptic.

All extraction sites must be closed with absorbable monofilament suture (**FIGURE 2**). Postoperative radiographs must be obtained to ensure that the roots have been removed.

If the patient is having difficulty eating, place an esophagostomy feeding tube (**FIGURE 3**). This allows food and medications to be given during the healing process. Pain management and antibiotic therapy should be provided at home. Once the patient is eating comfortably and consuming the daily required amount of food, the tube can be removed.

Recheck appointments should be planned for 1 month and 3 months after the procedure. At the 3-month recheck, you should be able to predict the patient's response to treatment. If teeth remain, 6-month recheck examinations with or without dental cleanings should be scheduled. Rigorous home care must be practiced between visits once the mouth has healed. It can take up to 2 years to know what the patient's full response to treatment will be.

Suggested Reading

American Veterinary Dental College Web site (**avdc.org**).

Bellows J. Plasma cell gingivitis and pharyngitis (gingivostomatitis). In: Lobprise H, ed. *Blackwell's Five-Minute Veterinary Consult Clinical Companion: Small Animal Dentistry*. Ames, IA: Blackwell; 2007:314-316.

Lyon K. Gingivostomatitis. *Vet Clin North Am Small Anim Pract* 2005;35:891-911.

Wiggs R. Domestic feline oral and dental disease. In: *Veterinary Dentistry: Principles and Practices.* Philadelphia: Raven Lippincott; 1997:496-499.

Conclusion

In my opinion, the number of gingivostomatitis cases has increased. These cases can frustrate practitioners because finding the treatment that provides the most relief can take months. Some patients become pain free, whereas others continue to need medical intervention to control the pain. Fortunately, research is being conducted to find the cause of gingivostomatitis and provide more treatment options.

References

1. Bonello D. Feline inflammatory, infectious and other oral conditions. In: Tutt JDC, ed. *BSAVA Manual of Canine and Feline Dentistry*. Glouchester, UK: BSAVA; 2007:126-147.
2. Wiggs R. Lymphocytic plasmacytic stomatitis. In: Norsworthy GD, ed. *The Feline Patient*. 3rd ed. Ames, IA: Blackwell; 2006:631-633.