



# Oral Ulceration

## (Ulcers of the Mouth)

### Basics

#### OVERVIEW

- “Oral ulceration” is the term for “ulcers of the mouth”; ulcers are lesions on the moist tissues, characterized by the loss of the top layer(s) of tissue, usually associated with inflammation
- Ulcers may occur as individual lesions or multiple lesions in the tissues of the mouth
- Ulcers of the mouth (oral ulceration) frequently accompanies inflammation of the mouth; inflammation of the mouth is classified by location as follows:
  - ♦ Inflammation of the gums or gingiva—gingivitis
  - ♦ Inflammation of the tissues that support the teeth—periodontitis
  - ♦ Inflammation of the tongue—glossitis
  - ♦ Inflammation of the bone and bone marrow of the jaws—osteomyelitis
  - ♦ Inflammation of the lining of the mouth—stomatitis
- “Chronic” is defined as being long-term or prolonged
- “Paradental” refers to adjacent, beside, or alongside (“para”) the teeth (dental)
- Chronic ulcerative paradental stomatitis is also known as “CUPS”
- “Lymphocytic plasmacytic stomatitis” is seen in cats; it also is known as LPS—it is inflammation of the lining of the mouth, characterized by the presence of lymphocytes and plasma cells; lymphocytes are a type of white-blood cell that are formed in lymphatic tissues throughout the body; lymphocytes are involved in the immune process; plasma cells or plasmacytes are a specialized type of white-blood cell; plasma cells are lymphocytes that have been altered to produce immunoglobulin, an immune protein or antibody necessary for fighting disease

#### SIGNALMENT/DESCRIPTION OF PET

##### Species

- Dogs
- Cats

##### Breed Predispositions

- Inflammation of the lining of the mouth, characterized by ulcers (known as “canine ulcerative stomatitis” and also known as “chronic ulcerative paradental stomatitis” [CUPS])—Maltese, Cavalier King Charles spaniels, cocker spaniels, Bouvier des Flandres
- Inflammation/infection of the bone for unknown reason (known as “idiopathic osteomyelitis”)—cocker spaniels may have increased likelihood of developing idiopathic osteomyelitis as compared to other dog breeds; complication associated with CUPS

- Inflammation of the lining of the mouth, characterized by the presence of lymphocytes and plasma cells in cats (known as “feline stomatitis complex” or “lymphocytic plasmacytic stomatitis”)—the Somali and Abyssinian may have a tendency to develop feline stomatitis

### **Mean Age and Range**

- Any age

## **SIGNS/OBSERVED CHANGES IN THE PET**

- Bad breath (known as “halitosis”)
- Inflammation of the gums (known as “gingivitis”)
- Inflammation of the throat or pharynx (known as “pharyngitis”)
- Inflammation of the lining of the cheek (known as “buccitis”) with ulcers (known as “buccal mucosal ulceration”)
- Excessive salivation (known as “hypersalivation” or “ptyalism”) with thick, ropey saliva
- Pain
- Lack of appetite (known as “anorexia”)
- Ulcers of the lining of the mouth (known as “mucosal ulceration”)—ulcers that occur on surfaces of the moist lining of the mouth that oppose the teeth (known as “kissing ulcers”) common in ulcerative stomatitis
- Plaque (the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva)—with or without tartar or calculus (mineralized plaque on the tooth surface)
- Exposed, dead (necrotic) bone—with inflammation of the bone of the tooth socket (known as “alveolar osteitis”) and inflammation/infection of the bone for unknown reason (known as “idiopathic osteomyelitis”); conditions of unknown cause are called “idiopathic”
- Behavior changes secondary to pain or sensitivity in the mouth
- Scar formation on lateral margins of tongue—with CUPS

## **CAUSES**

### **Metabolic**

- Diabetes mellitus (“sugar diabetes”)
- Inadequate production of parathyroid hormone by the parathyroid glands (known as “hypoparathyroidism”)
- Inadequate production of thyroid hormone (known as “hypothyroidism”)
- Kidney disease/failure—excess levels of urea and other nitrogenous waste products in the blood (known as “uremia” or “azotemia”)

### **Nutritional**

- Protein-calorie malnutrition
- Riboflavin deficiency; riboflavin is part of the vitamin B complex

### **Cancer or Tumors**

- Dog—malignant melanoma; squamous cell carcinoma; fibrosarcoma; benign epulis (the epulides [plural of epulis] are masses located on the gums; they are the most common benign tumor of the mouth)
- Cat—squamous cell carcinoma; fibrosarcoma; malignant melanoma

### **Immune-Mediated**

- Autoimmune diseases (such as pemphigus vulgaris, bullous pemphigoid, systemic lupus erythematosus, discoid lupus erythematosus)
- Drug-induced—ulcerative disorder of the skin and moist tissues of the mouth (such as “toxic epidermal necrolysis” or “erythema multiforme”)
- Immune-mediated inflammation of the blood vessels (known as “immune-mediated vasculitis”)

### **Infectious**

- Retrovirus—cats; feline leukemia virus (FeLV) and feline immunodeficiency virus (FIV)
- Calicivirus—cat
- Herpesvirus—cat
- Leptospirosis—dog
- Inflammation/infection of the tissues surrounding and supporting the teeth (known as “periodontal disease”)—dog and cat

## **Traumatic**

- Foreign body—bone or wood fragments
- Electric-cord shock
- Any deviation in the relationship or contact between the biting and chewing surfaces of the upper and lower teeth (known as “malocclusion”)
- “Gum-chewer's disease”—chronic chewing of the moist tissues lining the cheek

## **Chemical/Toxic**

- Ingestion of caustic chemicals
- Thallium

## **Idiopathic (Unknown Cause)**

- Eosinophilic granuloma (a mass or nodular lesion containing a type of white-blood cell, called an eosinophil)—cats, Siberian huskies, Samoyeds
- Feline stomatitis complex—cats
- Canine ulcerative stomatitis—dogs; allergic reaction to plaque (the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva)
- Inflammation/infection of the bone for unknown reason (idiopathic osteomyelitis)—dogs

# **Treatment**

## **HEALTH CARE**

- Supportive therapy—soft diet; fluids; hospitalization in severe cases
- Pain management—topical pain relievers (known as “analgesics”), medications to cover the ulcers
- Canine ulcerative stomatitis—continuous, meticulous home care to prevent plaque (the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva) accumulation; dental cleaning initially and frequently; periodontal therapy; extraction of diseased teeth
- Underlying metabolic or other disease—treat underlying illness

## **DIET**

- Soft diet
- Nutritional support—via feeding tube

## **SURGERY**

- Select extractions (partial mouth, teeth in the back of the mouth, or full mouth)—may be indicated for long-term (chronic) conditions of unknown cause (idiopathic), such as canine ulcerative stomatitis and feline stomatitis complex, to remove the source of reaction (plaque [the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva] and teeth)
- Removal of entire tooth structure—important in extraction treatment for feline stomatitis complex
- Removal of dead (necrotic) bone or bone that has lost blood supply (known as “avascular bone”) indicated for inflammation/infection of the bone for unknown reason (idiopathic osteomyelitis)

# **Medications**

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- Antibiotics—treat primary and secondary bacterial infections—clindamycin; amoxicillin-clavulanate; tetracycline
- Broad-spectrum antibiotics—indicated for inflammation/infection of the bone for unknown reason (idiopathic osteomyelitis)
- Anti-inflammatory/immunosuppressive drugs—used to decrease inflammation and to decrease the immune response; the comfort of the pet must be weighed against potential long-term side effects of steroid usage—prednisone
- Agents to protect the surface of the lining of the mouth (known as “mucosal protectants”) for chemical insults—sucralfate; cimetidine

- Pain relievers (known as “analgesics”) following extraction of teeth—carprofen; hydrocodone; tramadol
- Topical treatment (that is, treatment applied directly to the tissues of the mouth)—chlorhexidine solution or gel (antibacterial); zinc gluconate/ascorbic acid; stabilized chlorine dioxide for bad breath (halitosis)

## **Follow-Up Care**

### **PATIENT MONITORING**

- Frequent examinations of the mouth to monitor for improvement or recurrence of ulcers

### **PREVENTIONS AND AVOIDANCE**

- Meticulous home care to prevent accumulation of plaque (the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva)

### **EXPECTED COURSE AND PROGNOSIS**

- Prognosis is guarded, response to therapy depends on underlying cause, and prolonged treatment and/or further extractions may be necessary
- Inflammation may take 4–6 weeks to subside after extractions due to plaque (the thin, “sticky” film that builds up on the teeth; composed of bacteria, white-blood cells, food particles, and components of saliva) build-up on sutures and the tongue
- Feline stomatitis complex—following extractions of the premolar and molar teeth or extractions of all teeth: 60% significant improvement, 25% some improvement, and 15% no improvement has been reported

## **Key Points**

- Inflammation may take 4–6 weeks to subside after extractions; ulceration in some pets may not improve following extractions
- Prognosis is guarded, response to therapy depends on underlying cause, and prolonged treatment and/or further extractions may be necessary
- Any level of home care (brushing or topical antimicrobials) that can be provided is encouraged in pets with canine ulcerative stomatitis or feline stomatitis complex; however, these pets may have very sensitive and painful mouths so owner should be cautious when using home care

# Notes

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