

Sink Your Teeth Into the Matter

Feline Dental Health

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Objectives

- ▶ Classification of feline dental issues
- ▶ Causes and risk factors of dental disease
- ▶ Managing dental disease and maintaining dental health



Classification

▶ Structural

- Variation in tooth number and morphology
 - Anodontia
 - Oligodontia
 - Supernumerary
 - Persistence of deciduous teeth
 - Gemination
 - Fusion
- Malocclusion
 - Skeletal
 - Dental



Classification

- ▶ Swellings/tumors
 - Osteomyelitis
 - Eosinophilic granuloma complex
 - Neoplasia
 - Benign
 - Malignant
 - Squamous cell carcinoma
 - Fibrosarcoma
- ▶ Trauma
 - Fractures



Classification

- ▶ Periodontal disease
 - Gingivitis
 - Inflammation of gingival tissue only
 - Periodontitis
 - Loss of tooth supporting tissue
 - Varying severity of disease



Classification

▶ Gingivitis

- Gingivitis can occur in any breed at any age
- Juvenile hyperplastic gingivitis
 - 6–8 months old
 - Persians and Abyssinians predisposed, but can occur in any breed
 - Inflammation of gingiva and overgrowth covering crowns

Classification



Gingivitis

Hyperplastic Gingivitis



Classification

▶ Periodontitis

- Gingivitis–periodontitis (stomatitis, LPS, etc)
 - Juvenile onset gingivitis–periodontitis
 - Widespread oral inflammation
 - Before 9 months
 - Siamese, Maine Coon, DSH
 - halitosis at permanent teeth eruption
 - Adult gingivitis–periodontitis
 - No age, sex or breed predilections
 - Persians, Abyssinians, Siamese, Burmese, Himalayans can have more severe form

Classification

Stomatitis



Classification

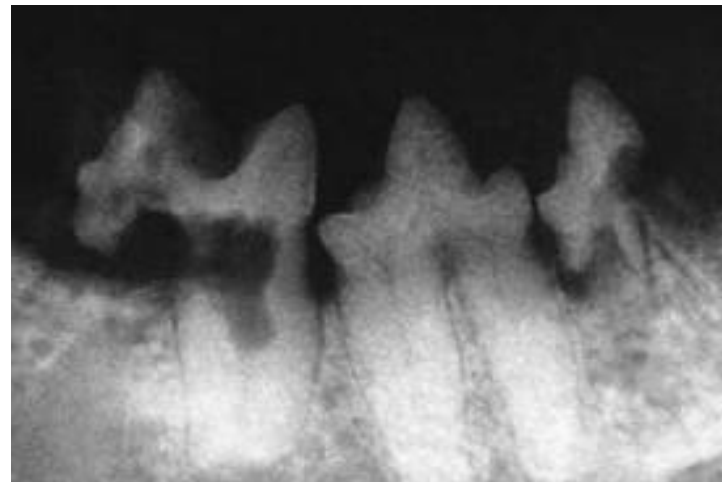
▶ Periodontitis

- Tooth Resorption (FORL, neck lesions, etc.)
 - Common dental finding in cats
 - 25%–75% cats affected
 - Usually first occur at around 2 yrs. age
 - Number of lesions increase with age
 - No sex or breed predilection, but seem to occur more often in purebred cats with Persians and Siamese at forefront
 - Crown or root is resorbed by the body

Classification



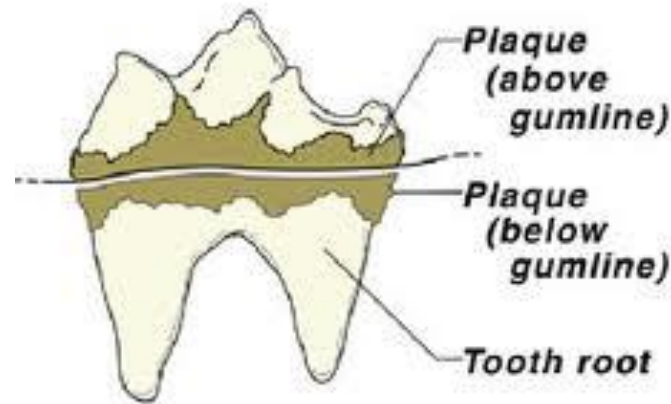
Resorptive Lesions



Causes and Risk Factors

▶ Gingivitis

- Plaque, plaque, plaque!!!
 - Bacteria colonize glycoprotein layer (biofilm)
 - Unique, resistant environment
 - Irritation of gingiva
 - Survival of pathogenic bacteria subgingivally



Molar tooth with dental plaque

Causes and Risk Factors

▶ Periodontitis

- Bacteria by-products stimulate host immune system
 - Cytokines and prostaglandins weaken and destroy supporting tissues of teeth

▶ Tartar (Calculus)

- Mineralized plaque
 - Creates protected environment for loads of bacteria
 - Close contact with tissues
 - Accelerates development of periodontitis
 - Cannot be removed with simple brushing

Causes and Risk Factors

- ▶ Stomatitis, LPS, etc.
 - Cause not clearly defined
 - Inadequate or exaggerated host response
 - Multifactorial
 - Genetic
 - Environmental stress
 - Diet
 - Viral
 - Bacterial

Causes and Risk Factors

▶ Stomatitis

◦ Genetics

- Breed predisposition
 - Brachycephalic breeds can have malocclusion which leads to plaque build-up
 - Inheritable???

◦ Environmental Stress

- Overcrowding, inadequate nutrition

Causes and Risk Factors

▶ Diet

◦ Dry vs. wet food

- Dogs and cats fed canned diets have higher incidence of plaque, tartar and dental disease
- Dry diets requiring much mastication helps reduce plaque
 - Cats don't tend to chew their food
 - Health benefits to feeding canned food

Causes and Risk Factors

▶ Viral

- FeLV and FIV thought to be prevalent in cats with periodontal disease
 - Immuno-compromised status exacerbates dental disease
- Bartonella
 - Many cats with titers do not have dental disease and many with dental disease don't have titers
- Calicivirus
 - Shown to have significant presence in cats with chronic stomatitis (97% in one study)
 - Herpes virus may also have a role

Causes and Risk Factors

▶ Bacterial

- Feline mouth full of bacteria
 - Both gram-positive and gram-negative
 - *Pasturella* and *Pseudomonas* very common in cat mouth
 - Contributes to biofilm and plaque formation

▶ General Health

- Other systemic diseases can contribute
 - Diabetes, hyperthyroidism, immune-mediated disease, etc.
 - Anything that compromises the immune system

Causes and Risk Factors

▶ Tooth Resorption

- Etiology not entirely clear
 - Age definitely risk factor
 - Diet may play significant role
 - Higher Mg content???
 - Excessive Vitamin D may or may not play a role
 - Studies are counter-indicative
 - Domestication
 - Exclusively indoor cats
 - Neutering???

Management

- ▶ Control the plaque!!!
 - Brushing is ideal management tool
 - Not always easy in cats
 - Dental hygiene rinses
 - Water-additives
 - Mouth rinses
 - Sometimes difficult to use
 - Some cats sensitive to these products



Management

- ▶ Control the plaque!!!

- Diet and treats

- Larger kibble to encourage chewing
- Dental treats for cats
 - C.E.T. treats
 - Greenies



- Routine dental scaling and polishing

- Only way to remove tartar and help control subgingival plaque

Management

- ▶ Juvenile Hyperplastic Gingivitis
 - Dental scaling and polishing
 - May need to be performed every 6 months until hit puberty
 - Resection of hyperplastic gingiva
 - Laser ablation is helpful
 - May develop chronic stomatitis or may revert to normal

Management

▶ Stomatitis

- Must start with dental cleaning, charting, and radiographs
 - Removal of plaque and tartar may be enough to stem immune-response
- Antimicrobials
 - Clindamycin
 - Clavamox
 - Metronidazole
 - Doxycycline
 - Azithromycin



Management

▶ Stomatitis

◦ Corticosteroids

- Prednisolone
- Depo-medrol
 - Not a long-term therapy due to consequences of chronic use

• Immunomodulators

- Chlorambucil
- Cyclosporine
 - Blocks T-helper cells in immune response

Management

▶ Stomatitis

- Non-steroidal anti-inflammatory drugs
 - Meloxicam (Metacam)
 - Piroxicam
 - Azathioprine
 - Can cause fatal toxicity in cats
- Interferon
 - Feline Interferon
 - Difficult to get in US, expensive

Management

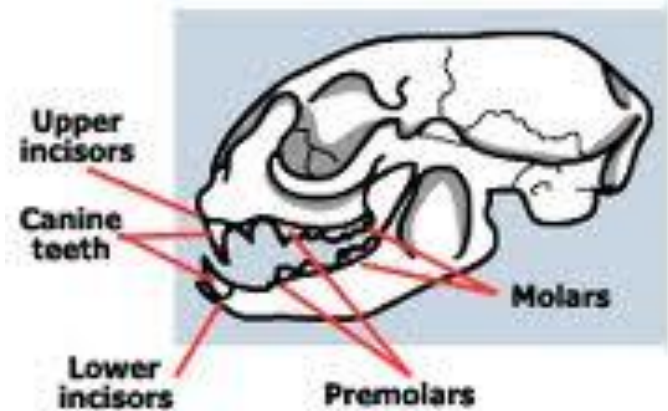
▶ Stomatitis

◦ Other options

- Bovine lactoferrin
 - Immune stimulant
- Megestrol acetate
- Levamisole
 - Antihelmenic and immunomodulator
- Lysine
- Eicosanoids (fatty acids)
 - immunomodulators

Management

- ▶ Stomatitis
 - Surgical extractions
 - Caudal teeth
 - Full mouth
 - Need pain control and antibiotics
 - May see full recovery, may not



Management

▶ Tooth Resorption

- Lesions limited to root surface and not exposing pulp cavity not painful
 - Can monitor over time to make sure there is not progression
 - Can attempt restoration, but is a progressive disease, so is not a long-term therapy
- Lesions exposing the pulp cavity are extremely painful
 - Extraction of tooth is only option

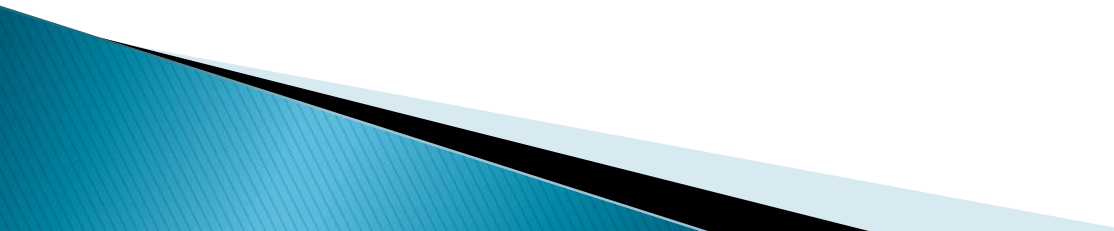


Management

- ▶ Malocclusions, Swellings, Fractures
 - Surgical corrections for malocclusions and fractures
 - Biopsies of tumors to determine nature
 - Resections of tumors
 - Can remove portions of jaw if necessary
 - Ancillary chemotherapy for some neoplasia



Review

- ▶ Better understanding of the classifications of dental issues in felines
 - ▶ Clearer idea of the causes and risk factors associated with feline dental disease
 - ▶ Current management of various types of feline dental issues
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Any Questions???

