Common Dental Problems

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Fractured Teeth

Fractured teeth are one of the more common dental problems seen in small animal practice. The most commonly affected teeth are the canines and upper 4th premolars, however, any tooth can be affected. The likely cause of premolar or molar fractures is chewing habits, i.e., bones, antlers, hard nylon chews, rocks, sticks and hard nuts. When canine teeth are fractured it is often the result of blunt trauma to the mouth. While pain is certainly present, it is often not observed by the owner. Only after treatment do clients mention the return of a behavior that may suggest pain was previously present.

Teeth can be fractured with or without pulp exposure. All teeth with cracked or portions of the crown missing should be evaluated. Teeth with pink or brown spots on a fractured surface should be considered to have pulp exposure until proven otherwise. All fractured teeth should be radiographed to help determine viability. Treatment options for fractured teeth with pulp exposure are either root canal therapy or extraction. Wait and see should not be an option, as this requires the pet to endure unnecessary pain. While extraction is 99%+ successful, it is more painful and there is loss of function of the tooth. Root canal therapy preserves function of the tooth and is typically 95%+ successful.

Discolored Teeth

Discolored teeth are usually the result of some type of blunt force trauma to the tooth causing a contusion (think bruise) to the pulp. Because the tooth is a closed vessel, the swelling that results from the trauma causes an increase in pressure inside the tooth. This pressure increase can result in death to the pulp and forces the internal hemorrhage within the tooth out into the dentin of the tooth. Initially, this causes a pink color in the tooth later changing to a purple and then to a gray color.

The vitality of discolored teeth can be evaluated by transillumination with a bright light such as the light of an otoscope without the cone however it is not 100% reliable. A non-vital tooth will have a shadow within the tooth when compared to the opposite tooth. Dental radiographs of the discolored tooth and the opposite tooth can be compared, looking at the root canal size. If the discoloration has been present for an extended time there will be a difference in root canal diameters. Many times, especially when only a portion of the crown is discolored, the tooth will need to be reradiographed one year later.

A study by Frazier Hale of Canada noted that 93% of these discolored teeth were non-vital. He further noted that only about 40% showed any radiographic changes. He concluded that discolored teeth can be assumed to be non-vital and should be treated either by extraction or root canal therapy.

Clinically, almost all teeth I have seen with intrinsic staining involving more than 50% of the crown have been non-vital when treated.

Chronic Ulcerative Paradental Stomatitis (C.U.P.S.)

CUPS is a condition of dogs that typically involves severe, generalized inflammation of the gingiva and buccal mucosal. It appears this is the result of a hyperimmune reaction to plaque. While this can affect any dog, it appears there may be a predisposition in Cocker Spaniels, Maltese, Cavalier King Charles Spaniels and Schnauzers.

Clinical signs include severe gingivitis with pain, halitosis, oral ulcers (kissing lesions), soft yellowish plaque, hyper-salivation and ulcers on the margins of the tongue. Diagnosis is based on clinical signs and biopsy results.

Treatment is based on plaque control; however, this is often very difficult due to the oral pain present. Initially, a complete dental cleaning and evaluation should be performed. Any periodontally compromised teeth should be considered for extraction as these teeth and their gingival recession creates a plaque retentive surface. Homecare is a must if there is any hope of saving teeth, however, the pain associated with CUPS often makes it difficult. Oral chlorhexadine rinses, chlorine dioxide and/or brushing are helpful, if possible. Eventually, multiple extractions leading to caudal or full mouth extractions are necessary.

CUPS can be a very frustrating condition to deal with and holds a guarded prognosis for complete resolution. If there is a response to the dental cleanings, they will need to be done every 3-6 months. Many times the tongue margin ulcerations persist.

Lymphocytic Plasmocytic Stomatitis (LPS)

LPS is a condition of cats that typically involves severe, generalized inflammation of the gingiva and buccal mucosal. It appears this is the result of a hyperimmune reaction to plaque. It can affect any cat but the Abyssinian and Somali breeds appear predisposed.

Clinical signs include severe gingivitis and pain with hyersalivation. Often these cats show weight loss due to a reluctance to eat as well as bloody saliva. Diagnosis is based on clinical signs and biopsy results.

Many treatment regimes have been reported, including corticosteriods however it appears extractions are usually necessary as medical based treatments have limited response times. Often selected extraction of periodontally diseased teeth help reduce the inflammation, however, it seems most cases eventually need at least caudal mouth extractions. It is important to completely extract the entire tooth (or roots of missing teeth) and debride the periodontal ligament from the alveolus. In an article by Dr. Phillipe Hennet in a 1997 Journal of Veterinary Dentistry he reported that caudal or full mouth extractions improved the inflammation in 80% of the cats.

Oral Growths

There are a number of types of oral growths commonly seen in the oral cavity of dogs and cats. These growths could include gingival hyperplasia, epulides, melanoma, squamous cell carcinoma, fibrosarcoma or osteosarcoma. Dental radiographs are important to evaluate for bone involvement however the most important diagnostic tool for any oral growth is biopsy, no matter how minor, to determine if additional therapy is required.

Epulides are one of the more common tumors found in the mouth of dogs. Typically, they are benign tumors that originate from the periodontal ligament. Perpherial odontogenic fibroma's , formerly called fibromatous

epulis are considered benign, non-invasive growths. Treatment involves removal of the tooth and bone around the roots, minimal margins are required. Acanthomatous ameloblastoma is another variable of epulides and is more locally aggressive and invasive. Clinical signs include gingival swelling around the affected tooth. Diagnosis is based on biopsy results. Treatment involves surgical excision with complete removal of the periodontal ligament within margins that should be 1-2 cm. Acanthomatous ameloblastoma also responds to radiation therapy. Both treatment options provide a very good prognosis.

Melanoma, squamous cell carcinoma, fibrosarcoma or osteosarcoma are oral tumors with variable metastatic characteristics. Imaging with biopsies is important for determining the prognosis and for treatment options.

> Tooth Resorption Also Known As... Cervical line lesions, Neck Lesions Resorptive Lesions, Feline Osteoclastic Resorptive Lesions

Tooth resorption; formerly known as resorptive lesions, cervical line lesions, feline osteoclastic resorptive lesions and neck lesions are commonly seen in as many at 30-75% of cats. The exact mechanism of cause is not understood, however, something triggers the destruction of the tooth, usually beginning on the root surface just below the gumline and advancing coronally.

Clinical signs include localized gingivitis and/or hypertrophy, tooth sensitivity (chattering), loss of appetite and visible tooth destruction.

Diagnosis is based on clinical signs and dental radiographs, looking for lytic destruction of the root and/or crown. Dental radiographs provide information that determines the technique of extraction of the tooth. If radiographs reveal loss of detail of the root and canal structures, complete extraction of the root is un-necessary. If there are signs of infection of the root system the complete root must be extracted.

Enamel Defects

Damage to the enamel that occurs during the development of the tooth is either enamel hypoplasia or hypomineralization. Generalized systemic infections such as viruses like distemper or parvovirus or even a

febrile episode can affect the enamel formation.

Clinical signs include soft chalky enamel that flakes easily or areas of enamel loss with staining of the underlying dentin. Dental radiographs should be obtained to evaluate the health of the tooth and for normal root development.

Treatment involves removing the damaged, soft, flaky enamel and smoothing the remaining enamel edges, followed by sealing the enamel and exposed dentin with a bonding agent or flowable composite to lessen the roughness of these damages areas, making them less plaque retentive.

Retained Deciduous Teeth

Retained (or persistent) deciduous teeth are a common problem, especially in small breeds of dogs. The best rule of thumb is "there should never be two of the same type tooth in the same hole". Problems associated with retained deciduous teeth include bad breath, periodontal disease problems, orthodontic or bite problems and pain.

Treatment involves extraction of the persistent deciduous tooth, as soon as possible. Typically, the deciduous tooth is smaller and more pointed than the adult that follows it. When in doubt, a dental radiograph can help differentiate the differences. Generally, the upper incisors and canines erupt rostral to the deciduous tooth while the lower canines erupt lingual to the deciduous canine.

Gingival Hyperplasia

Gingival Hyperplasia can occur as a generalized condition or more localized. It is characterized as an overgrowth of the gums, sometime so severely that it completely covers the tooth. Some breeds predisposed include Boxers, Bulldogs and Staffordshire Bull Terriers. Another predisposing factor are certain drugs, specifically Phenytoin, Cyclosporin and (in humans) pregnancy.

Treatment involves cutting back the overgrowth to a more normal level. It is important to biopsy representative areas of the affected areas. Gingivectomy is commonly performed with "cold steel" to remove the bulk of the tissue, followed by contouring with a multi-fluted bur on the highspeed handpiece. It is important to maintain a two millimeter minimum biologic width of attached gingiva. The fluted bur helps to control hemorrhage along with digital pressure and topical astringents. Electrocautery should be used with caution to avoid thermal damage to the underlying bone.

Oro-Nasal Fistula

An oronasal fistula is defined as a communication between the oral and nasal cavities. It is usually secondary to periodontal disease and most commonly found on the palatal aspect of the maxillary canine teeth. It can result from trauma to the maxilla or failure of the closure of an extraction site. ONF's are commonly seen in dachshunds, shelties, collies and schnauzers.

Clinical signs include chronic sneezing and nasal discharge that can be unilateral or bilateral. Diagnosis is based on probing the periodontal defect, the presence of blood in the nostril after probing or flushing saline into the defect and seeing the saline in the nostril. Closure of extraction sites should be made without tension on flaps to improve success.

Suborbital Facial Swelling

Sudden facial swelling below the eye is a common presentation to the general practice. Often a draining tract accompanies it either on the face or intraorally. One of the most common reasons for the swelling is an

abscessed tooth-the upper 4th premolar or the 1st molar. Other conditions to rule out are cysts and oral growths. Don't be fooled into thinking it is an insect sting and fail to check the teeth.

Diagnosis is based on the clinical signs and dental radiographs. If a fistula is present, contrast may be used to assist in the diagnosis. Usually a dental radiograph will differentiate which tooth is involved or is something more such as cancer present. Treatment is based on the differential diagnosis- an abscessed tooth should be extracted or have a root canal, cysts should be excised, including careful removal of the cyst lining. Tumors should be biopsied to determine the best treatment plan. Prognosis varies based on the diagnosis.

Base Narrow Mandibular Canines

BNMC teeth are a condition where the lower canine teeth traumatize the hard palate. This can result from a type III malocclusion resulting in a short mandible or from retained deciduous teeth. Often in puppies that are head shy, BNMC are present and when we look the pup in the eye we lift the chin, pressing the teeth into the hard palate causing pain.

Left untreated, this condition can progress to an oronasal fistula as well as attrition of teeth making contact with each other. Treatment may include orthodontic movement, crown reduction or extraction.

Periodontal Disease

Certainly, periodontal is the most common "disease" of dogs and cats. Studies have shown 70-80% of dogs and cats over 3 years of age have enough plaque and tartar buildup to justify a complete dental cleaning and evaluation. Dental radiographs and probing are essential to fully evaluate periodontal disease. In general, single rooted teeth become mobile with more than 50% bone loss while multiple rooted teeth may remain stable. Teeth with greater than 50% bone loss are typically extracted because it is unlikely the tooth will be a long term survivor and may cause discomfort.