

Taking the bite out of feline dentistry

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With a mouth filled with pointy teeth, dental disease and dental pathology are typically a question of when, not if, it will develop within the feline mouth. What type of pathology is often down to a complex mix of oral flora, genetics, diet and disease co-morbidities. Nobody wants a toothache and nobody wants to see their cat suffer from the consequences of untreated dental disease. Therefore, feline practitioners have a responsibility to work with clients to prevent and treat dental disease in our purrfect patients.

Managing dental disease in cats starts at those kitten visits and continues lifelong with effective communication. Every clinic visit is an opportunity to teach about dental health. Showing clients their cat's teeth and discussing normal vs abnormal findings during those physical exams will also be beneficial. Effective learning does require repetition, so dental health should be repeated at every visit by every staff member.

As there is much information to cover at the initial 8 and 12 week visits, it is natural for dental health to be set aside in favor of other behaviour-based conversations (e.g. appropriate litter box use, meeting the environmental needs, appropriate play etc). If all we do at these early visits is confirm that (a) teeth are erupting on schedule and (b) letting clients know that all those deciduous teeth will fall out (hence avoiding those panic 5pm phone calls) that is OK to avoid information overload. At the 3rd kitten visit, we can start broaching preventive dental care and directing clients to reputable online resources such as The Veterinary Oral Health Council (VOHC).

Much as in human dental care, preventive dental care for cats can either be achieved with mechanical scraping action (e.g. brushing) or gingivitis treatments (e.g. oral rinses, toothpaste). Although brushing might be considered the "gold standard" of preventive feline dental care, the reality of cats is that we must practice "the cat standard" – which is what the cat will allow to have done – to achieve maximum compliance. The advent of dental diets, with their larger kibble pieces and shatter technology, have proven to be very effective at mechanically scraping off tartar and are, by far, this speaker's most-recommended form of preventive dental care due to its high acceptance among both cats and caregivers.

As effective as home dental care can be, not all feline dental pathology can be prevented. In the speaker's experience, the following are the most common types of dental pathology seen in feline practice:

- 1) Resorptive lesions (RLs): Previously called Feline Orthodontolastic Resorptive Lesions (FORLs), RLs are one of the most common dental pathologies. While older estimates had 20% of all cats being affected by these lesions, it is this speaker's experience that this percentage is likely much higher with as much as 30 – 40% being affected. In the affected tooth, the orthodontoclastic process is turned "on" causing a non-infectious dissolution of the tooth. These lesions are divided into three types based on the radiographic appearance of the roots: Type 1 RLs have crown lesions without any root resorption/change; Type 2 RLs have extensive clastic remodelling or "dissolution" of the root in addition to the crown; and Type 3 where the tooth is "half and half" where one root might be fully dissolved but the

other root has no change. Type 2 lesions have been further subdivided into stages based on the extent of root change with stage 1 being very minimal and stage 5 being full dissolution.

Once the cat tooth has decided to undergo resorption, there is nothing that can be done to stop the process. Treatment, therefore, is to “speed up mother nature” and remove the tooth. Type 1 and Type 3 teeth must have those intact roots removed whereas Type 2-late-stage teeth can undergo crown amputation as there are no roots left to be removed.

- 2) **Gingivitis-Stomatitis Complex (GSC):** A highly inflammatory condition marked by severe gingivitis and gingival hyperplasia with, as the name suggests, the inflammation extending beyond the tissue adjacent to the teeth to include the buccal, palatal, and lingual mucosa. Clinically these mouths will often present with severe halitosis and be prone to bleeding but will have surprisingly minimal tartar for the degree of inflammatory change. Historically GSC was linked to the FIV and FeLV retroviruses but now upper respiratory viral agents including calicivirus have been implicated. It is suspected that the virus “primes” the immune system to launch an immune response against normal oral flora resulting in inflammation. There is currently no documented breed disposition and the average age at which GSC presents is 7 years. Risk factors including oral flora imbalance and increased environmental stress in multi-cat households have been identified.

Treatment of GSC focuses on (a) reducing bacterial load (ultimately by full mouth extractions) and (b) reducing the improper inflammatory response (via the use of immunosuppressive therapy including corticosteroids, cyclosporin, and chlorambucil). Even after full mouth extractions, it can take many months for the gingiva to return to a non-inflamed state.

- 3) **Juvenile gingivitis:** Defined as gingivitis seen in young cats (6 – 12 months of age), this inflammatory presentation will often be noted at time of tooth eruption. Like GSC, inflammation is due to an improper response to oral flora. Although these young mouths present with severe gingivitis and gingival hyperplasia, they differ from GSC in that the distal mucosa is not affected. Like other inflammatory conditions of the mouth, if left untreated there will be loss of attachment and tooth loss. With good case management, juvenile gingivitis appears to be self limiting and resolve by the age of 2 years but by then the damage might already be such that tooth removal needs to be considered.
- 4) **Periodontal disease:** Periodontal disease is an inflammatory dental pathology common in cats. It is caused by a complex interaction between plaque bacteria and the individual’s immune response. Although gingivitis in the earliest stages does not cause tissue damage and can be reversed with appropriate intervention, such as cleaning under anesthetic, chronic periodontal disease does result in gradual tissue destruction with the gingiva, periodontal ligament, cementum, and alveolar bone being affected. Untreated periodontal disease creates pain for the feline patient. Unlike GSC and juvenile gingivitis, patients affected by periodontal disease will have visible plaque and tartar.

Diagnosis of dental pathology and establishment of a comprehensive treatment plan requires a combination of visual examination and radiographs. Although tooth extraction can appear daunting, it is a skill that any feline practitioner can become proficient in with the right equipment, CE, and practice.

Resources/references:

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