TOOTH RESORPTION IN CATS

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Tooth resorption of cats is a very commonly found problem when performing a good oral examination or dental prophylaxis. Until recently we have overlooked this dental problem as veterinarians. This has been because the lesions are often hard to visualize and also because we didn't realize what we were seeing. These lesions are also found in dogs, but not as frequently.

These lesions are usually located in a linear position along the tooth's cervical line (neck). For this reason, they have been called "neck lesions" or "cervical lesions". They were initially thought to be carious in nature, but have since been reclassified as a progressive, subgingival and/or supragingival, odontoclastic resorption.

The premolars and molars are the most likely teeth to be affected, but they are also found on the canines and incisors. These defects are often covered with calculus and may not be noticed until the calculus is removed. The lesions may also be covered by hyperplastic gingiva and filled with granulation tissue. Cats with these lesions are often reluctant to eat hard food due to the pain involved. Even when the cat is under anesthesia, the cat's jaw will twitch when these lesions are probed.

Affected cats are usually middle-aged, but they have been seen in cats as young as 2 years of age. Purebred cats are the most susceptible, with the Siamese and Persian having the highest incidence. Cats can have multiple teeth affected with different stages of the lesion.

The etiology of these resorptive lesions is still unknown.1 Studies trying to show that hypervitaminosis D in the diet have thus far not found any correlation.2

Once detected the lesions may be classified into stages according to the severity3:

Stage 1 - Mild dental hard tissue loss (cementum or cementum and enamel).

Stage 2 – Moderate dental hard tissue loss (cementum or cementum and enamel with loss of dentin that does not extend into the pulp).

Stage 3 - Deep dental hard tissue loss (cementum or cementum and enamel with loss of dentin that extends into the pulp cavity); most of the tooth retains its integrity.

Stage 4 - Extensive dental hard tissue loss (cementum or cementum and enamel with loss of dentin that extends into the pulp cavity); most of the tooth has lost its integrity.

Stage 5 – Remnants of dental hard tissue are visible only as irregular radiopacities, and gingival covering is complete.

Tooth resorption is further classified into **Types** based on radiographic appearance of the root and surrounding supportive tissues.₄

¹ Reiter AM, Lyon KF, Nachreiner RF, Shofer FS. Evaluation of calciotropic hormones in cats with odontoclastic resorptive lesions. Am J Vet Res. 2005 Aug;66(8):1446-52.

² Girard N, et al. Tooth resorption and vitamin D3 status in cats fed premium dry diets. J Vet Dent. 2010 Fall; 27(3) 142-147.

³ American Veterinary Dental College Nomenclature Committee. http://www.avdc.org/nomenclature.html#TRstage

⁴ American Veterinary Dental College Nomenclature Committee. http://www.avdc.org/nomenclature.html#TRtype

Type 1 – On a radiograph, a focal or multifocal radiolucency is present in the tooth with otherwise normal radiopacity and normal periodontal ligament space. These lesions are inflammatory in nature and can be periodontal or endodontal in origin.

Type 2 – On a radiograph, there is narrowing or disappearance of the periodontal ligament space in at least some areas and decreased radiopacity of part of the tooth. The lesions are non-inflammatory and can have either surface resorption or replacement resorption.

Type 3 – On a radiograph, features of Type 1 and Type 2 are present in the same tooth. A tooth with this appearance has areas of normal and narrow or lost periodontal ligament space, and there is focal or multifocal radiolucency in the tooth and decreased radiopacity in other areas of the tooth.

Treatment decision of tooth resorption is based on the **type** of resorption, thus requiring radiographs. Teeth with inflammatory type 1 lesions require complete extraction of the entire tooth. However, teeth with type 2 non-inflammatory lesions are treated with crown amputation, leaving the ankylosed root.

Treatment of Stage 1 lesions are difficult to diagnose so there is not much to do at this stage.

Stage 2 type 1 lesions are lesions which could possibly be restored. However, the owner must understand that these lesions are progressive and that restoration is only temporary. Various methods and materials have been proposed for this purpose. The light cured glass ionomers are presently being used most frequently.

Teeth with Stage 3, 4 and 5 lesions are usually extracted or crown amputated depending on the type.

Below are some examples of the different stages and types:

Stage 1 - These are early lesions extending less than 0.5mm into the tooth's neck.



Stage 2 (type 1) - These have significant erosions, which do not invade the endodontic system.



Stage 3 (type 3) - These are deep erosions invading the endodontic system.



Stage 4 (type 3) - These have deep erosions with loss of tooth integrity as well as endodontic involvement.



Stage 5 - These are chronic lesions, which have caused complete coronal loss and subsequent gingival over- growth hiding the retained root.

