



## VETERINARY VOICE: Tips of the Trade

### Odontogenic Tumors

**What does the term epulis mean?** The term epulis refers to any gingival mass. It is clinically descriptive and has no histologic connotation so must be submitted for histopathology. The four groups are: (1) non-neoplastic reactive lesions from irritation (gingival hyperplasia and pyogenic granuloma), (2) benign neoplastic lesions of odontogenic origin (peripheral odontogenic fibroma), (3) canine acanthomatous ameloblastoma, (4) malignant non-odontogenic tumors (SCC, MM, FSA, OSA, ect).

**Odontogenic tumors?** Odontogenic tumors originate through aberration from normal pattern of odontogenesis. These lesions are classified based on the origin from various germ layers (ectodermal, mesodermal, or mixed) and as inductive or non-inductive (depending on whether an interaction between epithelium and mesenchymal takes place). The three most common odontogenic tumors are discussed below.

**Canine ameloblastoma?** The ameloblastoma is an ectodermal, benign (not been shown to travel), locally invasive and aggressive tumor that is thought to originate from surface epithelium or from persistent remnants of the dental lamina (cell rests of Serres). It can affect dogs of any age, with peak at 10 years. Clinical appearance is gingival enlargement often with a papillary surface most often found at the mandibular incisors or premolars. Radiologic signs include expansion of the cortex and displaced rather than "floating" or destroyed teeth that characterize malignant tumors. Definitive treatment should be implemented immediately after diagnosis. Wide excision is curative. Although radiation sensitive, it may transfer to SCC after treatment.

**Peripheral odontogenic fibroma?** This is a benign, inductive, tumor of mesenchymal origin that derives from the cells of the periodontal ligament. Clinically a well-demarcated gingival mass with possible ulceration. In the majority of cases no underlying bone is involved. Marginal excision is curative unless bone is involved, in which it must be removed.

**Odontoma?** Odontomas are mixed epithelial and mesenchymal origin, show full induction, and have all dental tissues present. Compound odontomas have dental tissues (denticles) that resemble normal dental tissues (teeth). The term complex odontoma is used when the calcified dental tissues have an irregular mass. The compound odontoma is more common and may have a dentigerous cyst surrounding it. Both forms are seen commonly in younger animals and associated with un-erupted teeth. Remove dental components completely (either intracapsular excision or en-bloc resection). Epithelial lining must be removed if dentigerous cyst surrounds it.

**Rare odontogenic tumors?** Ameloblastic fibro-odontoma is a tumor of young cats that invades bone and has no capsule. Calcifying odontogenic tumor (CEOT) produces amyloid and resembles an ameloblastoma. Wide excision on both can be curative.

**Questions? Dentistry and Oral Surgery Expert: Celeste Roy, DVM, DAVDC** The Veterinary Specialty Center of Tucson has a board-certified dentist and oral surgeon available for questions and consultations during the weekdays. She is on call for consultations and emergency procedures for patients seen by the VSCT emergency service. Board-certified dentists have four additional years of training after veterinary school and are certified by the American Veterinary Dental College to assure competency in advanced veterinary dentistry and oral surgery.