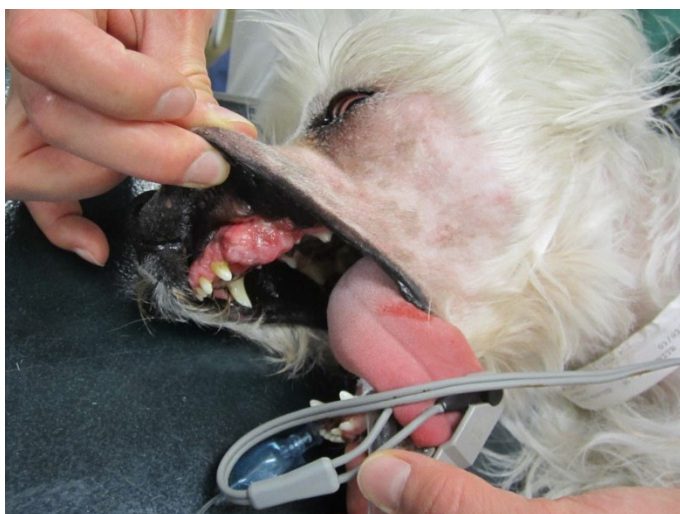


Surgical Options for Oral Tumors



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Oral cancer accounts for six to seven percent of canine and three percent of feline cancers. This percentage may increase as veterinary medicine advances and more prophylactic dentals are being performed. Early detection, diagnosis, and treatment can vastly improve the prognosis for canine and feline oral tumors.

Diagnosis and Staging

Many animals present with an oral mass appreciated by their owner. Other possible clinical signs of an oral tumor include increased salivation, epistaxis, weight loss, halitosis, oral discharge, and dysphagia.

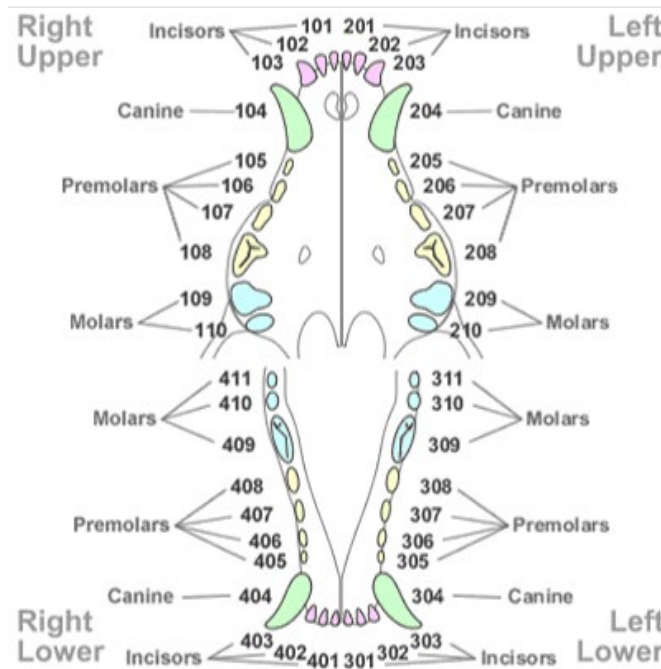
The tumor diagnosis workup is imperative in determining treatment options and prognosis. The first step is documenting the location and tumor size. Often, an incisional biopsy is needed to obtain a diagnosis. Due to frequent inflammation and necrosis, fine needle aspiration and cytology are often not rewarding. While regional radiographs can detect bone invasion due to imposition, surgeons often elect CT imaging for surgical planning.

The regional lymph nodes of the oral cavity include the mandibular, parotid, and medial retropharyngeal lymph nodes. Any mandibular lymph node enlargement should be documented, and fine needle aspiration should be performed. However, in one study of 100 dogs with oral melanoma, 40% of dogs with normal-sized lymph nodes had metastasis, and 49% of dogs with enlarged lymph nodes did not. Therefore, normal

size does not always preclude the presence of metastasis. Chest radiographs or thoracic CT should always be performed in patients with malignant oral tumors to assess for possible metastasis.

Surgical Options

Surgery is the most frequently used modality in the treatment of oral tumors. Mandibulectomies and maxillectomies are generally well tolerated and can provide an excellent outcome. Typically, 2 to 3cm margins are ideal for malignant tumors, while 0.5cm margins are acceptable for benign tumors. While both procedures carry a moderate risk for complications, the majority of these complications are considered minor. Surgical complications that have been associated with these procedures include hemorrhage, aspiration pneumonia, incisional dehiscence, mandibular drift and malocclusion, ranula formation, anorexia, nasal discharge or epistaxis, difficulty prehending, implant migration, oronasal fistula formation, and very rarely death. Most of these procedures do not significantly alter the dog's or cat's outward appearance. Owners frequently report high satisfaction following their pet's surgical procedure.



Types of Oral Tumors



The most common oral tumors in dogs are malignant melanoma, squamous cell carcinoma, and fibrosarcoma. Malignant melanoma tends to occur in smaller body weight dogs than other oral tumor types. These tumor types carry a high metastatic rate to the lymph nodes and lungs, holding only a fair to good prognosis following surgery. Non-tonsillar squamous cell carcinoma has a lower metastatic rate (~20%) but depends upon the site. Squamous cell carcinoma contained to the rostral oral cavity generally has a low metastatic rate, and the caudal tongue and tonsil have a high metastatic potential. Following surgery, the prognosis can be good to excellent. Fibrosarcomas most commonly occurs in large-breed dogs. These can be difficult to differentiate from fibromas and, therefore, can be classified as histologically low-grade but biologically high fibrosarcomas. The surgical treatment should be aggressive regardless. If surgically resectable, the prognosis can be good as these are most often locally aggressive, with a metastatic rate to the lymph nodes and chest in <30% of cases.

In felines, the most common oral tumor is squamous cell carcinoma. While metastasis is reportedly rare, the true incidence is unknown because so few cats have their local disease controlled. Unfortunately, these commonly present without a surgical option and do not respond well to radiation. The prognosis for this tumor type is often poor to fair.

Epulides are benign gingival proliferation arising from the periodontal ligament and can commonly look similar to gingival hyperplasia. These are now subclassified as acanthomatous ameloblastomas and peripheral odontogenic fibromas. While both do not metastasize, these behave slightly differently and are treated differently with surgery. Acanthomatous ameloblastomas are locally aggressive, so a bony margin is needed to remove these tumors. Alternatively, peripheral odontogenic tumors can be cauterized at their base and frequently do not recur.

Tongue masses are rare, with the majority being malignant. The most common type of tongue neoplasia is squamous cell carcinoma. It is important to obtain a biopsy under general anesthesia or heavy sedation. A partial glossectomy can be considered for tumors that are unilateral or rostral. However, many tumors (54%) are midline or bilaterally symmetrical. Radiation is an alternative treatment option for these cases.



Conclusion

Oral tumors are becoming more common in veterinary medicine. The quicker we can work up these cases and obtain a diagnosis, the faster we can start treatment—the earlier the treatment, the better the ultimate prognosis.

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