

VETERINARY VOICE: Tips of the Trade

Oral Malignant Melanomas In Dogs

Clinical Features

Melanoma is common in dogs, accounting for 3% of all neoplasms and 7% of all malignant tumors. It is the most common malignant neoplasm of the oral cavity of the dog. Melanoma is almost always considered malignant, although it is not always pigmented. The most common site is the gingiva (33% tumors at gingiva are melanomas). Fewer cases arise from lingual, buccal, pharyngeal, tonsillar, and palatine epithelium. Males are 1.4-6 times more prevalent, with an average age of 11 years. German Shepherd dogs and Boxers are prone to developing oral melanoma. The Irish Setter, Chihuahua, Golden Retriever, and Cocker Spaniel are at risk for developing melanoma of the lip. Presenting signs include: dysphagia, halitosis, ptyalism, hemorrhage and occasionally mandibular fracture. Oral malignant melanoma in the dog is characterized by local invasion and a high rate of local and distant metastases (14-74%) with regional lymph nodes and lungs commonly affected.

Prognosis

The two most repeatable prognostic indicators are: 1) size of the primary tumor and 2) ability of first treatment to control disease effectively. Any melanoma is considered to have significant metastatic potential, although this risk increased with a tumor diameter of >2cm. Tumor location is related to survival time and the development of pulmonary metastasis. Rostrally located tumors are associated with a better prognosis. Dogs with bone lysis have a significantly worse prognosis. Response to radiotherapy is the only other consistently identified prognostic factor.

Treatment

Reported (not median) survival times after surgical resection range from 3-45 months. Dogs with a primary tumor >2cm in diameter have survival times from 14.9-20 months vs. 5-6 months for larger tumors. Melanomas are also responsive to coarse-fractionated external beam radiation therapy, although the addition of radiation therapy to surgery will not predictably increase survival time. As distant disease is the most common cause of death in these cases, pre-treatment staging is imperative.

Other treatment options?

The melanoma vaccine is indicated for the treatment of dogs with stage II or stage III oral melanoma for which local disease control has been achieved (surgically). The vaccine alerts the immune system to the presence of the human melanoma tumor protein tyrosinase, which is similar enough to canine tyrosinase to induce a response against melanoma cells. Dogs have an estimated life expectancy of one to five months, even after establishing local tumor control with surgery and/or radiation therapy. Dogs with advanced disease that has been locally controlled had a median survival time of 389 days (or more) after receiving the vaccine. The vaccine is designed to be administered in an initial vaccination series of one 0.4 mL dose every two weeks for a total of four doses. One booster dose is administered every six months.

Questions?

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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.