

Melanoma in Dogs
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Melanomas are tumors arising from pigment cells within the body. In dogs, melanomas most commonly occur on the skin, in the mouth, and on the digits (toes) or in association with the nail bed. Unlike in humans, the majority of skin melanomas are benign in dogs, however oral and digit/nail bed melanomas tend to be malignant, with the potential to locally invade tissues and underlying bone, as well as spread to other parts of the body. Metastasis (spread) of melanoma, when it occurs, tends to be to regional/draining lymph nodes, and lungs; but it can also spread distantly to other organs, such as the liver. Dogs that develop melanoma tend to be older. The cause of melanoma is unknown in dogs.

Most melanomas in the mouth or skin will present as dark, raised masses. Some melanomas may appear as a pinkish color (*amelanotic melanomas*). In the mouth, they can be associated with drooling, halitosis (bad breath), bleeding from the mouth, difficulty eating or dropping food from the mouth, and oral pain. Those occurring on the digit or associated with the nail bed can be associated with toe swelling, loosening or infection of the affected toenail, or lameness on the affected leg.

Diagnosis/Initial Evaluation

The initial evaluation of a dog with melanoma typically involves obtaining a needle aspirate or biopsy of the affected tissues, and further diagnostics to determine the extent of tumor in other areas of the body (needle aspiration of lymph nodes, chest x-rays, +/- abdominal ultrasound). Bloodwork (complete blood count and chemistry panel) and urine sampling are typically performed at the initial visit and provide important information regarding a patient's overall health and ability of the patient to handle treatment. Advanced imaging (CT or MRI) may be useful in determining the full extent of the tumor and determining appropriate treatment options, particularly with larger tumors, or those located within or around the mouth.

Treatment and Prognosis

Malignant melanoma typically carries a guarded prognosis, as it is common for melanoma to behave in an aggressive fashion, either by metastasizing (spreading) regionally to the lymph nodes or more distantly to the lungs or other sites, or by recurring locally. The recommended treatment for this tumor type therefore consists of local tumor control through surgery and/or radiation therapy, as well as systemic treatment. For recurrent or inoperable tumors, palliative radiation therapy can be considered to slow tumor growth or potentially shrink the tumor, and to lessen pain and bleeding associated with the tumor. In general traditional chemotherapy has not been shown to be very effective in the treatment of melanoma, but Carboplatin was shown to have a with response rate of 30% according to one report. Recent advances in treatment for the metastatic potential of melanoma have occurred with the generation the melanoma vaccine, Oncept. Oncept has now become part of the standard adjuvant treatment in dogs with high risk melanoma. Side effects of the melanoma vaccine are minimal to none; a small subset of dogs may experience mild redness or bruising at the injection site, however systemic effects are generally not observed. While a

small subset of dogs may experience a response to the vaccine in the bulky disease setting (i.e., shrinkage of a measureable tumor), the vaccine works best in the microscopic disease setting, when the primary tumor has been completely excised and the vaccine is used as a follow-up therapy to eradicate microscopic metastasis.