



Canine Melanoma

The behavior of melanoma tumors in dogs is site dependent and differs somewhat from the behavior of melanoma in humans. First, canine melanoma usually is not associated with UV-light exposure. Second, canine melanoma most commonly develops in oral cavity of older dogs (average age 11 to 13 years), and the ones that develop in the skin tend to be benign.

When melanoma most commonly develops in the oral cavity, aggressive melanomas can also develop on the foot pads, nail beds, and mucocutaneous junctions (where the skin meets the mucosa, such as on the lips). The skin melanomas can, on occasion, behave aggressively as well. The biopsy report provides clues to help us predict just how aggressive one might behave. So what does it mean to say a tumor behaves aggressively? Melanoma act locally and spread to other organs in the body. These tumors can invade the underlying bone and cause deformity, pain, bleeding, and tooth loss. They commonly spread to draining lymph nodes, lungs, and other organs.

Owners usually first notice signs such as bad breath (halitosis), abnormal chewing, bleeding from the mouth, or weight loss. In other locations, an owner may notice pain, limping, or the mass itself. In general, the sooner it's caught and diagnosed, the easier it is to treat. Tumor size, spread to other organs, and removability are important considerations for your doctor. Small tumors that have not spread and are completely removed fare much better.

When a tumor is found, the first step is to obtain a diagnosis using cytology or histopathology. Cytology evaluates a needle sample of cells and can be an effective method to arrive at a diagnosis, but a biopsy is still required sometimes. Melanomas are usually pigmented tumors, and pathologists usually see characteristic melanin granules in the tumors. However, 17% are amelanotic (they lack pigmentation granules and are pink instead of brown), and sometimes the pathologist needs to perform additional testing ("special stains") to feel certain with a particular diagnosis.

After diagnosis, we recommend staging – the performance of various diagnostic tests to determine the overall health of the patient and the extent to which the tumor has spread. It can also be used to help with treatment by helping to better outline the extent to which the tumor has spread locally. Tests usually include blood work, urinalysis, 3-view chest x-rays

or CT scan, diagnosis by biopsy/cytology, oral examination, and evaluation of the draining lymph nodes. Evaluation of the primary tumor by oral x-rays or CT scan and abdominal ultrasound are sometimes recommended as well.

The third step involves treatment. The best treatment for this kind of tumor is surgery if the tumor is caught early and this is possible. Complete surgical removal of all gross evidence of disease is important. More conservative surgery which leaves tumor behind often results in rapid regrowth of the tumor at that site. For definitive treatment, I usually recommend a board-certified surgeon or board-certified dentist as the procedure is often complicated and may require removal of some of the bone of the jaw. There are many good general practitioners who feel comfortable doing more radical surgery, but most do not. If surgery cannot be performed or if it can be performed to reduce the mass of the tumor (debulk) only, we often recommend additional treatment to control the tumor at the primary site.

On average, a patient whose tumor is small (<2cm), completely removed, and confined to the primary site has a life expectancy of about 1.5 years. This is the best case scenario with surgical treatment alone. Larger tumors, incompletely removed tumors, and those that have spread to other sites fare much worse. And even those with small tumors often die of metastatic disease. Therefore, we recommend additional treatment (adjuvant treatment) for oral and high grade melanomas. Adjuvant treatment usually includes the melanoma vaccine, chemotherapy, or a combination. Optimizing treatment for a particular case can be complicated and is performed by a board-certified veterinary oncologist.

MELANOMA vaccine by Merial—The great news is that the vaccine has mild-to-no side effects. The vaccine is administered intra-dermally every two weeks for 8 weeks for a total of 4. Boosters are administered every 6 months. Studies show it takes 10 weeks or more before the vaccine takes effect, and if the tumor begins to cause problems in the interval, we recommend additional treatment with chemotherapy in the interim.

Follow up from the treatment of 350 canine patients shows that it can also be very effective. In patients in which all evidence of gross disease has been removed – whether the tumor was large, small, or spread to the lymph nodes – the median survival time was greater than 1072 days. For dogs with larger tumors or those spread to the draining lymph nodes with evidence of tumor still present at the start of the vaccine series, median survival time was 552 days. Dogs with stage IV – advanced disease – had a median survival time of 239 days.

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