

MAST CELL TUMORS

Mast cells are a special type of blood cell that is normally involved in the body's response to allergens and inflammation. Sometimes, these cells can become cancerous and develop into mast cell tumors. Certain breeds have a higher risk for developing these tumors including boxers, pugs, Boston terriers, Staffordshire terriers/pit bulls, retrievers, French bulldogs, and others. The most common locations for these tumors are the skin, spleen, liver, and GI tract. They are malignant tumors that can have the ability to spread to other organs.

The initial evaluation for a mast cell tumor includes a biopsy and/or removal of the tumor. The pathologist assigns a "grade" to the tumor when looking at it under the microscope and also evaluates the tissues to determine if all the cancer cells have been removed ("margins"). We use the grade to help predict how the tumor will behave. This influences both the prognosis (outcome) and treatment plan. For example, low-grade tumors are unlikely to spread and complete surgical removal of the tumor may be the only treatment required. High-grade tumors have an increased risk of spreading so we look very carefully for spread and often recommend systemic chemotherapy treatment.

"Staging" tests are recommended to determine if or where the tumor may have already spread. Mast cell tumors most commonly metastasize to the draining lymph nodes, liver, and spleen. A full staging evaluation consists of lymph node palpation and aspiration, and an abdominal ultrasound with spleen aspirates to examine the abdominal lymph nodes and organs for any spread. It is incredibly rare for this type of tumor to spread to the bone marrow or lungs, so testing of these areas is not usually necessary.

Treatment options for cutaneous mast cell tumors include surgery, radiation therapy, chemotherapy, and supportive care. Surgery is usually our first treatment choice. Because these tumors can be invasive, the surgeon must remove the tumor with a large margin of normal tissue both around and underneath it to ensure complete removal. Even when a large margin is taken, sometimes tumor cells are still left behind. When this occurs, additional treatment is needed; otherwise, there is the chance that the tumor might return. When a tumor cannot be completely removed with surgery, other treatments such as radiation therapy, electrochemotherapy, traditional chemotherapy, or other medical treatments may be considered.

It is important to remember that surgery and radiation therapy are local treatments and have no effect on the spread of the tumor. Chemotherapy treatment is often recommended with high grade tumors, tumors that have already metastasized, and/or tumors that cannot be removed with surgery. The commonly used chemotherapeutics include vinblastine, CCNU (Iomustine), toceranib (Palladia), and others. Steroid treatment (ie. prednisone) is usually recommended for pets with this cancer in order to reduce inflammation, slow growth and progression of the cancer cells, or potentially reduce size of the tumors before surgery. Additional medications are used to prevent tumor-related side effects that can be seen with mast cell tumors (due to the granules leaking from the cancer cells), including antihistamines (Benadryl, Zyrtec) and antacids (usually Pepcid or Prilosec).

The prognosis (outcome) for cutaneous mast cell tumors depends upon several things including the "grade" of the tumor, the location of the tumor, and the presence of metastasis. Many of these tumors are successfully treated if there is no evidence of spread at the start of treatment. Any future "lumps" and "bumps" should be evaluated with an aspirate and biopsy because dogs that have had one mast cell tumor are at greater risk for the development of additional mast cell tumors. Early detection of these tumors will increase the likelihood of successful treatment. For those tumors that have already spread or that occur in locations other than the skin (e.g. the spleen), the prognosis is guarded. The goal of treatment for these patients is to maintain a good quality of life for as long as we can. We know that dogs with low-grade tumors and stage 1 disease (no evidence of metastasis) with adequate local control (either with surgery or radiation therapy) do better than dogs that have evidence of metastasis at the time of diagnosis and can often live a normal life span.

Please remember that each patient is an individual and can have variable presentations of their cancer and response to treatment. Specific details and recommendations for your pet can be discussed in detail during a consultation with the oncologists at the Animal Cancer Center of Texas.