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MAST CELL TUMORS

Mast cell tumors are one of the most common skin tumors in the dog. They arise from a population of inflammatory cells called mast cells. Mast cells are filled with granules of inflammatory mediators such as histamines. When manipulated these granules are released from the cell and can cause significant swelling, redness, bruising or bleeding at the tumor site. Most mast cell tumors occur either within the skin or just under the skin in the subcutaneous tissues.

The behavior of mast cell tumors is very unpredictable. Tumors can range from a single solitary mass in the skin to an aggressive form called disseminated mast cell tumor, which spreads invasively throughout the body. Mast cell tumors can be classified into three categories:

1. Grade I - Well-differentiated, usually solitary nodules but may be multiple. Seldom metastasize or move to other organs in the body.
2. Grade II - Moderately differentiated, higher likelihood to metastasize and cause systemic disease.
3. Grade III - Poorly differentiated. Most aggressive, most likely to metastasize other parts of the body or cause systemic disease in the blood.

Diagnosis

A MCT can usually be diagnosed from a fine needle aspirate in which a small sample of cells are stained and examined under a microscope. Mast cells typically have a very characteristic appearance with dark granules in the cells. To help stage the spread of the tumor, blood counts, aspirates of regional lymph nodes, ultrasound of abdominal organs, and bone marrow biopsies maybe recommended.

Treatment

Once diagnosed, a mast cell tumor should be surgically removed and biopsied to determine the Grade (I-III) and to check the surgical margins. Healing can be delayed because of the inflammatory component of the mast cells. Often additional medications are advised following removal.

The grade of the tumor, the success of surgical removal, and the stage of the disease (extent of spread) determine the treatment. Surgical excision alone is often curative in a Grade I, completely excised tumor. Higher grades, incomplete excision and evidence of spread may require additional treatment.

Prognosis

Most mast cell tumors (Grade I) that can be completely removed have a good to excellent prognosis. The higher Grades (II + III) tend to have a guarded prognosis, and the aggressive tumors that have metastasized have a poor prognosis. Early detection and removal definitely improves the chances that this tumor can be treated. Continued monitoring of the surgical site for signs of regrowth and screening for metastatic disease is advised for all mast cell tumors.

Mast cell tumors can have a variety of appearances. A dog with a history of having a mast cell tumor removed should have all new lumps evaluated immediately. The doctors or staff at Lodi Veterinary Hospital will be happy to answer any questions that you may have.