

## Mast Cell Tumors

**Cause and Pathogenesis:** Mast cell tumors are neoplasms (cancer) that arise from mast cells in the connective tissue. Mast cells are part of the immune system that release histamine and other substances in allergic reactions and other inflammatory conditions. The cause of mast cell tumors is unknown.

**Affected Animals:** In dogs, the average age of affected animals is 8 years old. Breeds that are considered at increased risk include, but are not limited to: boxers, Boston terriers, English bulldogs, pugs, golden retrievers, and Chinese Shar-Peis. Of these breeds, Shar-Peis can be younger when they develop tumors and may be more prone to developing multiple lesions.

In cats, the average age of affected animals is 10 years, but kittens can also be affected. Males and Siamese cats may be predisposed.

**Clinical Signs:** Lesions can be variable in their presentation and range from soft to firm, pink to flesh colored, and can be raised or in the subcutaneous tissue. Size can vary and although typically solitary, they can be multicentric. In dogs, masses occur predominantly on the trunk, but can also be found elsewhere such as the limbs and head. In the cat, the head and neck are preferred sites.

**Diagnosis:** Diagnosis can be made by performing a fine needle aspirate and seeing numerous mast cells on cytology (looking at the cells under the microscope). When diagnosis cannot be made via cytology, then a biopsy with histopathology is diagnostic.

**Treatment:** Treatment decisions for cutaneous mast cell tumors in the dog are based on the location of the tumor, clinical stage, and histologic grade. Management of mast cell tumors includes but is not limited to, surgical excision, chemotherapy and/or radiation therapy. In cats, mast cell tumors are generally benign and treatment may be limited to surgical excision or cryotherapy.

**Prognosis:** Prognosis in the dog ranges from excellent to poor, depending on the location of the tumor, histological grade and whether metastatic disease is present. In the cat, given that the majority of these cutaneous tumors are benign, the prognosis tends to be good.