

## Canine Mast Cell Tumors

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### INTRODUCTION

Mast cell tumors are the most common cutaneous tumors in the dog, accounting for somewhere between 16%-21% of all cutaneous tumors. Boxers, bulldogs, basset hounds, Boston terriers, and golden and Labrador retrievers may be over-represented. The average age of affected dogs is approximately 9 years. No gender predilection has been reported, although intact males and spayed females may be over-represented. Cutaneous mast cell tumors arise from tissue mast cells in the dermis. Histologic grade is a strong prognostic factor and highly predictive of biologic behavior and clinical outcome.

### CLINICAL PRESENTATION

Cutaneous mast cell tumors typically present as solitary dermal lesions less than 3cm in diameter. Classically, the tumors are firm, raised, well-demarcated lesions, but many different presentations are possible. Occasionally, canine mast cell tumors will present as subcutaneous masses, and must be differentiated from other tumor types. Because of the peri-tumoral edema that frequently accompanies subcutaneous mast cell tumors, they may be mistaken for benign lesions such as lipomas. Many mast cell tumors may present for a waxing and waning history due to the periodic release of intracytoplasmic granules and the associated inflammatory response.

### DIAGNOSIS

Initial diagnosis is by fine needle aspiration, but excisional biopsy is required for histological grading. Specific staging tests for MCT include: CBC, buffy coat smear, bone marrow aspirate, lymph node aspirate and abdominal radiographs/ultrasound.

### TREATMENT

Treatment of canine mast cell tumor is primarily dictated by the grade of MCT present. Grade I tumors are usually cured by conservative resection. Grade II mast cell tumors are generally addressed using surgery and either chemotherapy or radiation therapy depending upon multiple patient related factors. Grade III mast cell tumors are the most aggressive types of mast cell tumors and chemotherapy is almost always part of the treatment protocol.

### PROGNOSIS

Many patients go on to experience long term survival and remission after a diagnosis of mast cell cancer. Even those patients with the most aggressive type of mast cell tumor can experience dramatic symptomatic relief after treatment.