HISTIOCYTIC DISEASES

Histiocytic disorders are an emerging group of likely related but confusing cancers reported in dogs. Histiocyte refers to cells of the macrophage/monocyte or "scavenger" cells of the immune system. These cells are present in many tissues of the body, including skin, lymph nodes, lungs, liver, spleen, and bone marrow. Several different "syndromes" have been recognized that may be variations of the same disease or related to the same cell of origin. Histiocytic diseases are currently separated into 6 syndromes: Cutaneous histiocytoma, idiopathic periadnexal multinodular granulomatous dermatitis, cutaneous histiocytosis, systemic histiocytosis, splenic histiocytosis/fibrohistiocytic nodules, and histiocytic sarcoma. Histiocytic sarcoma is subdivided into localized and disseminated.

Cutaneous Histiocytoma

This is a benign tumor of the skin that most commonly occurs in younger dogs. Histiocytoma occurs as a raised, hairless, "strawberry" colored lesion. Surgical removal is curative; however these tumors will regress on their own.

Idiopathic Periadnexal Multinodular Granulomatous Dermatitis (IPMGD)

IPMGD is a benign disease and may represent an autoimmune disorder. Benign lesions are confined exclusively to cutaneous tissues and arise most commonly on the head. There is no breed or sex predilection. Average age at diagnosis is 6 years. No underlying infectious agents have been identified. Lesions have been reported to regress spontaneously in some cases. Most cases are responsive to corticosteroid therapy. For some patients, continuous, intermittent low dose corticosteroid therapy is required to prevent recurrence of lesions.

Cutaneous Histiocytosis

Cutaneous histiocytosis represents a benign, diffuse infiltration of histiocytes that occur on multiple locations in the skin as nodules and plaques. Cutaneous histiocytosis often occurs in younger dogs, with the Golden Retriever and German Shepherd breeds over represented. Similar to IPMGD, CH is highly responsive to corticosteroid therapy. Long term maintenance therapy may be required to prevent recurrence of lesions.

Systemic Histiocytosis

Systemic histiocytosis (SH) is a proliferative disorder of histiocytes that occurs predominantly in middle aged Bernese Mountain Dogs, but is not exclusive to this breed and has been observed in Golden Retrievers, Doberman Pinschers, and Rottweilers. Systemic histiocytosis may represent a variant of disseminated histiocytic sarcoma. SH is a nodular disease confined to the skin, peripheral lymph nodes, and eyes. Skin lesions most commonly involve flank, muzzle, nose, eyelid, and scrotum. SH tends to have a waxing and waning course that is characterized by periods of relative lesion-free remission followed by recrudescence of lesions and symptoms. In addition to skin lesions, symptoms include lethargy, inappetance, and weight loss. Most owners elect euthanasia because of the chronic debilitating nature of the disease. SH is poorly responsive to therapy. Average survivals are 9-10 months.

HISTIOCYTIC DISEASES

Splenic Histiocytosis/ Fibrohistiocytic Nodules
Splenic histiocytosis/fibrohistiocytic nodules include a diffuse infiltration of the spleen with histiocytes and a similar, although nodular, form. Golden Retrievers, Labrador Retrievers, German Shepherds, and Cocker Spaniels appear to be over represented. Clinical signs include lethargy, abdominal distension due to enlargement of the spleen, or collapse if the spleen ruptures. Although the spleen can be surgically removed, most dogs will have evidence of metastases to other organs. Average survival is 3-5 months. Chemotherapy has not proven to be beneficial in improving survival.

Histiocytic Sarcoma Complex

Localized

Localized histiocytic sarcoma (LHS) most often occurs as a solitary lesion of the skin and subcutis of the limbs. It may also occur as in the periarticular tissues of joints such as the elbow and stifle (knee). Dogs are most often presented to the veterinarian for a soft tissue mass. Some dogs may present for lameness of the affected limb and the mass is noted subsequently. These tumors are often locally invasive with high potential for metastases to lymph nodes, lungs, spleen, liver and bone marrow. A biopsy is required for definitive diagnosis. In some patients, additional special stains of the tumor may be necessary to differentiate LHS from other similar appearing tumors. Aspiration of regional lymph nodes, chest X-rays, abdominal ultrasound and blood work are recommended prior to consideration of therapy to differentiate localized HS from disseminated HS.

Surgical removal of the mass is the recommended treatment. For periarticular histiocytic sarcoma, amputation of the affected leg is often required. Radiation therapy may be considered for patients with soft tissue tumors that are incompletely excised or as palliation of periarticular tumors where amputation is not possible. Because of the high risk of metastases, chemotherapy is recommended post surgery. Both doxorubicin and CCNU are considered to have efficacy with this disease. We are currently recommending a protocol of doxorubicin and CCNU alternated every 2 weeks for 8 treatments. Unfortunately, even with treatment, most dogs will develop metastases within 8-12 months of diagnosis.

Disseminated

Disseminated malignant histiocytosis (formerly known as malignant histiocytosis) is a rapidly progressive, widely metastatic proliferation of malignant histiocytes. Malignant histiocytosis is commonly seen in the Bernese Mountain Dog, but other breeds such as the Golden Retriever, Rottweiler, and Doberman Pinscher are at increased risk. Symptoms are non-specific and include lethargy, inappetance, weight loss, difficulty breathing and neurologic signs. The clinical course is rapid and uniformly fatal. Chemotherapy may be considered to improve quality of life. Treatment responses have been observed with both doxorubicin and CCNU; however responses are often short lived with progression of the disease within 2-6 months.