



HISTIOCYTIC DISEASES

These are a group of diseases that include cancerous and noncancerous proliferation of histiocytic cells, which themselves are a group of immune cells that includes macrophages and dendritic cells. Diseases sometimes listed within the category of histiocytic diseases include histiocytic sarcoma (probably the most common histiocytic disease seen by oncologists), cutaneous histiocytoma, malignant fibrous histiocytoma, and reactive histiocytosis (including cutaneous histiocytosis and systemic histiocytosis).

HISTIOCYTIC SARCOMA

What is it?

Histiocytic sarcoma is a malignant cancer of histiocytic cells. Although this cancer type can occur in any breed of dog, it seems to be more common in Bernese Mountain Dogs, Rottweilers, and flat-coated retrievers. Histiocytic sarcoma can originate in many different places in the body, and can be localized to one site or can metastasize to involve multiple organs. A previous term for this metastatic or disseminated form of histiocytic sarcoma is malignant histiocytosis.

What are the symptoms?

Depending on the site of the tumor, a visible mass may be present on physical exam. Because histiocytic sarcoma can occur in so many different parts of the body, however, the symptoms can vary greatly depending on the organ involved. Symptoms can be nonspecific, such as lethargy, poor appetite, and weight loss; or they can relate to the specific site of cancer involvement, such as cough, difficulty breathing, vomiting, or lymph node enlargement. The cancer can also cause signs due to problems such as anemia or low platelet count.

How is it diagnosed?

The diagnosis of histiocytic sarcoma must be made by evaluation of cells under a microscope. These cells are obtained by fine needle aspirate cytology and/or by biopsy. Sometimes, additional special stains (immunocytochemistry or immunohistochemistry) may be useful to distinguish this tumor type from other tumors which can look similar under the microscope. Once histiocytic sarcoma is diagnosed or suspected, patients should be completely staged to look for any sign of disease elsewhere in the body. This staging generally includes bloodwork (such as a CBC and chemistry panel), chest X-rays, abdominal ultrasound (and ultrasound-guided fine needle aspirate samples if the ultrasound shows abnormalities), and occasionally a bone marrow aspirate.

How is it treated?

If the cancer is localized to one site, surgical removal is recommended if possible. Chemotherapy is often recommended as a followup to surgery, to try to prevent or delay tumor metastasis. Chemotherapy has not been extensively studied for treatment of histiocytic sarcoma, but drugs thought to have efficacy include CCNU, doxorubicin, and liposome-encapsulated doxorubicin. Radiation therapy has been only minimally



evaluated for this tumor type, but could potentially be used in combination with surgery if surgery is not able to remove all microscopic disease in the area.

If the tumor is present in multiple locations or surgical removal is otherwise impossible, chemotherapy and radiation therapy, alone or in combination, may temporarily palliate symptoms by reducing the cancer for a time.

What is the prognosis?

Unfortunately, many patients with histiocytic sarcoma present with advanced, widespread disease. The prognosis for these patients is poor, with reported median survival times around 3 to 4 months even with chemotherapy treatment. Patients with localized, surgically resectable tumors may have a better prognosis and occasionally may be cured with surgery or a combination of surgery and chemotherapy. However, even when localized, this tumor type is still considered very aggressive, and a very high rate of eventual metastasis still exists even with aggressive treatment.

CUTANEOUS HISTIOCYTOMA

This is a benign tumor of the skin. It can occur in dogs of any age, but may be more common in young dogs. These tumors are diagnosed by fine needle aspirate cytology or by biopsy, and often spontaneously regress over 1-2 months. If regression does not occur, surgical removal of the mass is typically curative.

MALIGNANT FIBROUS HISTIOCYTOMA

Common sites for this tumor type include subcutaneous tissues and the spleen. Although these tumors microscopically share some features with other histiocytic cancers, they are generally considered to be a type of soft tissue sarcoma instead.

NONCANCEROUS HISTIOCYTIC DISEASES (REACTIVE HISTIOCYTOSIS)

These diseases are not considered cancerous and include inflammatory histiocytic lesions, which can involve only the skin (cutaneous histiocytosis) or multiple organs of the body (systemic histiocytosis). These diseases are generally distinguished from each other and from histiocytic cancers by identification of disease sites within the body and by a pathologist's evaluation of biopsy specimens, although sometimes the distinctions between various types of histiocytic diseases can be extremely difficult. The reactive, noncancerous histiocytic diseases are typically treated with immunosuppressive medications and show varying degrees of response to treatment.