

Histiocytic Sarcoma

What is Histiocytic Sarcoma?

Canine histiocytic sarcoma is a rare tumor, representing less than 1% of all the lymphoreticular neoplasms (blood-lymphatic cell population). The cell of origin is an immune system cell lining organs exposed to the outside world, called dendritic cells. This disease can either present as a localized tumor or as disseminated cancer, affecting multiple organs. It can be found in the lung, liver, spleen, lymph nodes, stomach, pancreas, mediastinum, skin, skeletal muscle, central nervous system (brain, spinal cord), bone and/or bone marrow. Bernese Mountain Dogs, Flat Coated Retrievers and Rottweilers are thought to be over-represented. This disease often affects middle aged to older dogs but can be seen in dogs as young as 3 years of age.

What are the clinical signs?

Presenting clinical signs vary depending on the site that is involved. Often, the presenting clinical signs are lethargy, presence of a mass, cough or difficulty breathing, inappetance, limping, and/or weight loss. Less commonly dogs may present with a fever, vomiting, diarrhea, enlarged lymph nodes, increased thirst and urination, a bloody nose and/or abnormal looking eyes. Dogs often are anemic (low circulating red blood cells) and/or thrombocytopenic (low circulating platelets). They may also have evidence of inflammation on blood work characterized by high numbers of circulating neutrophils. Other bloodwork abnormalities can include high blood calcium, decreased albumin (a protein found in the blood) and/or high levels of globulins (a different kind of circulating protein). A significant number of dogs may also have elevated liver enzymes.

How is it diagnosed?

This disease is diagnosed by obtaining a sample of the organ or tissue involved. A biopsy is preferred over cytology since this cancer is often challenging to diagnose and is commonly confused with other kinds of cancer even by well-trained pathologists. The use of cell markers, specific to histiocytic, or dendritic cells, are often used to confirm the diagnosis.

Due to the potential that this disease is disseminated (affecting multiple organs), it is important to fully stage each patient to determine what organs/body systems the disease is affecting. This is done with complete blood work (CBC, chemistry panel), urinalysis and imaging, including chest x-rays (radiographs) and abdominal ultrasound. In some cases, bone marrow biopsy or aspirate is recommended.

What is the treatment?

Treatment is based upon whether the disease is localized or disseminated. In the localized form, surgery is recommended to remove the primary tumor followed by chemotherapy. With the disseminated form, chemotherapy alone is the treatment of choice. Recently, the use of an oral chemotherapeutic called Lomustine has been shown to increase overall survival times with both forms of the disease. This medication is given once every 3 weeks. Side effects associated with this medication include myelosuppression (a decrease in white blood cell counts) and liver toxicity. This chemotherapeutic can also cause gastro-intestinal signs such as anorexia, nausea, vomiting or diarrhea.

What is the prognosis?

Unfortunately, dogs with disseminated disease that are not treated for this cancer die within days to weeks of diagnosis. With the addition of oral chemotherapy (Lomustine), survival times improve to approximately 4-6 months. Dogs with localized lesions treated with surgery and chemotherapy often have survival times of greater than one year. In general, dogs that present with thrombocytopenia, anemia or decreased albumin, typically have a poorer prognosis.