

HEMANGIOSARCOMA

Hemangiosarcoma is a malignant tumor of blood vessel cells. With the exception of the skin form, which can often be eliminated by surgery, a diagnosis of hemangiosarcoma is bad news. This tumor is associated with serious internal bleeding and rapid internal spread. Fortunately, it is not completely without therapy options and, as long as expectations are realistic, temporary remissions are possible.

Hemangiosarcoma can theoretically arise from any tissue where there are blood vessels (which amounts to anywhere in the body) but there are three classical locations which account for most presentations: Skin and subcutaneous forms, Splenic forms, Heart-based forms

The Skin Form

The skin form of hemangiosarcoma are the best types to have as they are the most easily removed surgically and thus have the greatest potential for complete cure.

The skin forms of hemangiosarcoma are classified as either dermal and subcutaneous (also called hypodermal.) The true skin form looks like a rosy red or even black growth on the skin. This form is associated with sun exposure and thus tends to form on non-haired or sparsely haired skin, such as on the abdomen, or on areas with white fur. Dogs with short white haired fur (such as Dalmatians and pit bull terriers) are predisposed to the development of this tumor. Approximately 1/3 of cases will spread internally in the malignant way we usually associate with cancer so it is important to remove such growths promptly.

What To Know When a Skin Growth Biopsy Comes Back as Hemangiosarcoma. The biopsy report will indicate whether or not the growth was completely excised. If the tissue completely surrounding the growth is normal, this indicates that the growth has been removed completely and that it should not grow back.

If one wants to be absolutely positive that no tumor spread has yet occurred, the following non-invasive (but not inexpensive) testing is necessary. Chest radiographs - hemangiosarcoma tends to spread to the lungs. Advanced tumor spread can be picked up with this simple test. (Spots of tumor spread must be 3cm in diameter to be large enough to be visible on a radiograph.) Ultrasound of the belly - specifically the spleen. Even a small splenic hemangiosarcoma should be detectable with ultrasound. Ultrasound of the heart - even a small heart-based hemangiosarcoma should be detectable with ultrasound.

Subcutaneous or Hypodermal Hemangiosarcoma

The overlying skin is often totally normal on top of a subcutaneous hemangiosarcoma and often the surgeon is surprised to find a dark red blood growth under the skin when the tumor is removed.

Since up to 60% of hypodermal hemangiosarcomas spread internally the above three tests to rule out tumor spread are more important. If no sign of tumor spread is found after chest radiographs have been taken and ultrasound of the heart and belly are clear, prognosis is substantially better than if secondary tumor is found; however, additional treatment with chemotherapy is recommended if cure is the goal. Surgery alone has been associated with a 172-day (approximately 6 months) median survival time.

Hemangiosarcoma of the Spleen

The spleen is a fairly deep-seated abdominal organ that tends to go unnoticed unless it develops a growth of unusual enlargement. Splenic growths have the unfortunate tendency to break open and bleed profusely regardless of whether they are benign or malignant. While a splenectomy (removal of the spleen) certainly ends the prospect of this type of life-threatening sudden bleed, splenic hemangiosarcoma is still a rapidly spreading malignancy.

When a splenic mass is detected, it may not be possible to tell prior to splenectomy whether or not the mass is malignant or not (though certainly basic testing is performed in an attempt to determine this.)

Read about [<http://www.VeterinaryPartner.com>] /Content.plx?P=A&A=1394&S=<%= SpeciesID %>&EVetID=<%= EVetID %>splenectomy to review the details of splenic mass evaluation. Chemotherapy after removal of the splenic hemangiosarcoma is reviewed here so see the hemangiosarcoma link on the splenectomy page when you are ready to return for more information. 25% of dogs with splenic hemangiosarcoma also have a heart-based hemangiosarcoma.

Survival time with surgery alone is 19 to 65 days for splenic hemangiosarcoma.

Heart-Based Hemangiosarcoma

Like the splenic hemangiosarcoma, the heart-based hemangiosarcoma tends to exert its life-threatening effects by bleeding.

The heart is enclosed in a sac called the pericardium. When the hemangiosarcoma bleeds, the blood fills up the pericardium until it is so full that the heart inside is under so much pressure that it has no room to fill with the blood it has to pump.

On chest radiographs the heart is globoid (spherical). In fact, the actual heart is of normal shape but all that can be seen on the radiograph is the large round heart shadow of the pericardium filled to capacity with blood. Ultrasound is needed to truly see the effusion.

This condition, if allowed to progress, results in an emergency circulating collapse called a "pericardial tamponade" and can only be relieved by tapping the pericardium with a needle and withdrawing the excess fluid. 63% of heart-based hemangiosarcomas have evidence of tumor spread at the time of their discovery. Survival time for surgery alone (removing the pericardium and snipping off the heart-based hemangiosarcoma) is approximately 4 months. In a study presented in the Journal of the American Veterinary Medical Association in February 2005, 23 dogs with this type of tumor were studied. Of the dogs that had surgery, approximately half of them had some sort of post-operative complication, though most complications were minor and 87% survived and were released to go home from the hospital. Eight of these dogs received chemotherapy in addition to surgery and these individuals had much longer survival times (median survival of 175 days vs. 42 days for dogs who had surgery without chemotherapy).

Chemotherapy is necessary to create a substantial improvement in survival time. The most current protocol involves injectable Adriamycin (Doxorubicin) every 3 weeks and oral cyclophosphamide at home for 3 days out of the week.

Chemotherapy of Canine Hemangiosarcoma With Doxorubicin and Cyclophosphamide

J Vet Intern Med 7[6]:370-376 Nov/Dec'93 Clinical Study 29 Refs Karin U. Sorenmo CMV, K. Ann Jeglum VMD, and Stuart C. Helfand DVM Dept. of Clinical Studies, VHUP, 3850 Spruce Street, Philadelphia, PA 19104.

Sixteen dogs with a histologic diagnosis of hemangiosarcoma were treated with surgery and doxorubicin/cyclophosphamide. The patients' characteristics, i.e., age, size, and breed, were similar to those of previous studies. Historic controls for surgery alone were used to evaluate efficacy of the chemotherapy. The results show a trend of improved survival in dogs with localized disease (Stage I) receiving combination therapy. The median survival was 250 days, with a mean of 403 days. The survival times for dogs with stage I, II, and III disease was also improved with combination therapy, when compared to historical controls treated with surgery alone. The overall median survival was 202 days with a mean of 285 days. Toxicities included mild to moderate neutropenia (9 of 16) and clinical signs, such as lethargy, anorexia, vomiting, diarrhea, and fever (13 of 16). Three dogs had severe neutropenia requiring hospitalization and supportive care. One dog died from sepsis and related complications. Chemotherapy with doxorubicin and cyclophosphamide appears to improve survival with acceptable morbidity in patients with early stage disease. (Author Abstract)

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