



Vascular Tumors

These notes are provided to help you understand the diagnosis or possible diagnosis of cancer in your pet. For general information on cancer in pets ask for our handout "What is Cancer". Your veterinarian may suggest certain tests to help confirm or eliminate diagnosis, and to help assess treatment options and likely outcomes. Because individual situations and responses vary, and because cancers often behave unpredictably, science can only give us a guide. However, information and understanding for tumors in animals is improving all the time.

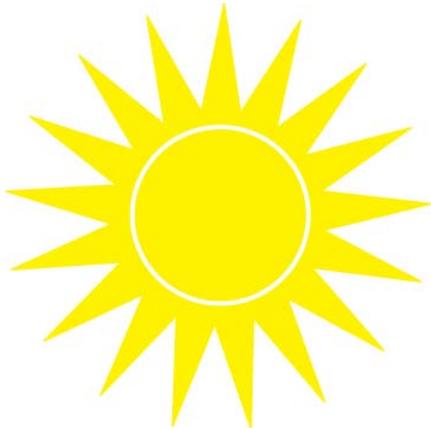
We understand that this can be a very worrying time. We apologize for the need to use some technical language. If you have any questions please do not hesitate to ask us.

What is this tumor?

This is a tumor of the blood vessels of the skin or subcutaneous tissue. Some are benign (**hemangioma**) but a few are malignant (**hemangiosarcoma**). The benign tumors are usually cured surgically but a small number may undergo malignant transformation, particularly when numerous tumors are present. The malignant tumors may spread to other parts of the body (metastasize). In a few cases, the malignant tumors may already be present in internal organs such as the spleen and heart and the skin tumor is a metastasis.

What do we know about the cause?

The reason why a particular pet may develop this, or any cancer, is not straightforward. Cancer is often seemingly the culmination of a series of circumstances that come together for the unfortunate individual.



Sunlight may be implicated in the cause of superficial tumors. Similarly, in cats, sunlight is a cause of malignant tumors (hemangiosarcomas). Little is known about the cause of hemangiosarcomas in dogs but sunlight may be involved in some cases.

Is this a common tumor?

Thin-skinned, light-coloured breeds of dog (whippets, greyhounds, bull terriers for example) have a predilection for benign tumors (hemangiomas). They are rare in cats.

Hemangiosarcomas are moderately common with a predilection for German Shepherd dog, Golden Retriever and Border Collies. The tumors are uncommon in cats but the incidence is increasing. They are usually on the ears, head or paws with a special variant found on the abdomen.

How will this cancer affect my pet?

The most obvious effects of these tumors are dark lumps under the skin, sometimes with intermittent bleeding, particularly in cats. Some ulcerate. Both benign and malignant tumors may be multiple and a few benign tumors may become malignant in time.

When tumors are present in internal organs, heart failure, respiratory difficulty and acute collapse are common.

In cats, ventral abdominal angiosarcoma is an aggressive variant resulting in a diffuse "bruised" appearance to the underside of the abdominal wall. This tumor may originate from lymphatics or blood vessels.

How is this cancer diagnosed?

Clinically, the tumors can be confused with bleeding due to trauma (hematomas), inflammation and other dark-colored masses including pigmented tumors. Accumulations of sweat and keratin in hair follicles may also be dark in color and confused. Distinction of benign and malignant tumors requires microscopic examination.



In order to identify the tumor definitively, it is necessary to obtain a sample of the tumor itself. Needle aspiration for microscopic examination of a small cell sample (cytology) is not diagnostic. Histopathology, the microscopic examination of specially prepared and stained tissue sections, is necessary. This is done at a specialized laboratory where the slides are examined by a veterinary pathologist. Sometimes, diagnosis of malignant tumors can be difficult on small pieces of tissue so examination of the whole lump is preferable. This will also allow staging (the extent of the tumor) to make assessment of behavior more accurate. The adequacy of surgical removal can also be assessed.

What treatment is available?

Treatment is surgical removal. No other treatment has been successful, although new chemotherapy and radiation therapies are in development.

Can this cancer disappear without treatment?

Cancer rarely disappears without treatment but as development is a multi-step process, it may stop at some stages. The body's own immune system can kill some cancer cells but is not effective against this type.

How can I nurse my pet?

Preventing your pet from rubbing, scratching, licking or biting the tumor will reduce inflammation. Any ulcerated area needs to be kept clean.

After surgery, the operation site similarly needs to be kept clean and your pet should not be allowed to interfere with the site. Any loss of sutures or significant swelling or bleeding should be reported to your veterinarian. If you require additional advice on post-surgical care, please ask.



Elizabethan Collar

How / When will I know if the cancer is permanently cured?

'Cured' has to be a guarded term in dealing with any cancer.

Histopathology will give your veterinarian the diagnosis that helps to indicate how it is likely to behave. The veterinary pathologist usually adds a prognosis that describes the probability of local recurrence or metastasis (distant spread).

Many of these tumors are benign and are cured by surgical removal but if left for long enough may become malignant.

Hemangiosarcomas are potentially recurrent and metastatic. If the tumor is only in the skin, the prognosis (outlook) is better than if there are other tumors in internal organs. A life expectancy of 1 to 3 years with spread to other organs in 2/10 cases was found in one survey. Some pathologists stage tumors by depth of invasion into the cutaneous structures. Stage I is the most superficial and Stage III tumors have invaded underlying muscle. Treatment of stage I tumors by complete excision is considered curative. Median survival of dogs with stage II and III tumors is quoted as 225 to 275 days following surgery with deaths due to recurrence or metastasis.

In a few cases, there may be multiple internal tumors in sites such as lung, spleen, liver, heart, skin and bone. In these cases, heart failure, respiratory difficulty and collapse from internal hemorrhage are common.

In cats, hemangiosarcomas frequently recur locally but have a low incidence of metastasis. Feline ventral abdominal angiosarcoma infiltrates extensively and is frequently recurrent but again, metastasis is rare.

Are there any risks to my family or other pets?

No, these are not infectious tumors and are not transmitted from pet to pet or from pet to people.