

CUTANEOUS HISTIOCYTOMA IN DOGS

Histiocyte biology

Langerhans cells were first recognized under the microscope in 1868 by a medical student, Paul Langerhans. These cells are members of the histiocyte group, which are part of the body's immune surveillance system. They take up and process foreign antigens, such as pollens and viral, bacterial and fungal microorganisms. They then migrate to the local lymph nodes ("glands"). Here they present the antigens to other immune system cells (T lymphocytes) to stimulate them into a variety of activities to protect the body. Langerhans cells also help prevent damage to the skin by UVB radiation and therefore are protective against other types of skin cancer.

What is this tumor?

This is a common benign tumor of Langerhans cells. 99% are permanently cured by removing them surgically. The tumors have an early period of rapid growth over 1 - 4 weeks and often ulcerate and become secondarily infected. Later they may regress.

What do we know about the cause?

Most dogs that develop these tumors are young and spontaneous self-cure is common with time. This suggests that they are hyperplasias (overgrowth with regression when the stimulus for proliferation of the cells is removed) rather than true cancers (where cell proliferation is out of control and does not regress). No infectious agent (such as a virus) has been isolated but a history of previous injury that could have allowed entry of such an agent is not unusual. Insects such as ticks could transmit these agents by biting, carrying the stimulus for histiocytoma from dog to dog.

Is this a common tumor?

This is a common tumor. Most dogs affected are less than six years of age, occasionally as young as eight weeks. The tumor can occur in any breed but some breeds appear to be more susceptible to the tumor. These include Boxers and Bull terriers.

How will this tumor affect my dog?

The most obvious effect of this tumor is the lump. Many will regress spontaneously over a few months, these tumors are usually removed because ulceration, infection and bleeding are significant problems. It has been known for a dog to die from secondary infection of an untreated tumor.



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Occasionally the local lymph nodes may swell. This may be because the migrating histiocytes have proliferated there or because there is a reaction to secondary infection. It is unusual for more than one tumor to be present on the same dog or for the same tumor to occur later at another site but both these situations have been found in otherwise normal young dogs. Very, very occasionally, in older dogs or those with inadequate immune systems, histiocytomas become multiple and progress to malignancy.

How is this tumor diagnosed?

Clinically, this tumor has a fairly typical button-like appearance but accurate diagnosis relies upon microscopic examination of tissue.

Various degrees of surgical sampling may be needed such as needle aspiration, punch biopsy and full excision. Cytology is the microscopic examination of aspirated cell samples. This is used for rapid or preliminary tests. More accurate diagnosis, prediction of behavior (prognosis) and a microscopic assessment of whether the tumor has been fully removed rely on microscopic examination of tissue (histopathology). This is done at a specialized laboratory by a veterinary pathologist. The piece of tissue may be a small part of the mass (biopsy) or the whole lump. The whole lump is needed to check that the cancer has been fully removed. Histopathology also rules out other more serious cancers. It is important that histopathology is performed by an experienced veterinary pathologist as the tumors are usually wrongly diagnosed as malignant by human pathologists.



What treatment is available?

Treatment is surgical removal of the lump to confirm the diagnosis.

Can this tumor disappear without treatment?

Yes. This is one of the rare types of tumor that the body's own immune system can eliminate. However, ulceration, itching, secondary infection and bleeding are often problems so surgery may be needed.

How can I nurse my dog?

Preventing your dog from scratching, licking or biting the tumor will reduce itching, inflammation, ulceration, infection and bleeding. Any ulcerated area needs to be kept clean.

After surgery, the operation site needs to be kept clean and your pet should be prevented from interfering with the site by rubbing, licking, biting or scratching. Any loss of sutures or significant swelling or bleeding should be reported to us. If you require additional advice on post-surgical care, please ask.

Are there any risks to my family or other pets?

Although this may be potentially a transmissible tumor between dogs, there are no risks to people or other pets. There are no records of tumors spreading by close contact between animals and the tumors do not occur in clusters in a household or neighborhood.

Langerhans cells have been recognized in most animal species including cats, birds, horses and man but tumors are only recorded in dogs, goats and man. The tumors in different species are not related nor are they transmitted between these species.

*This client information sheet is based on material written by Joan Rest, BVSc, PhD, MRCPATH, MRCVS.
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