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Skin – Cutaneous Histiocytoma

What are histiocytes cells and what do they do?

The histiocyte group of cells 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. Here they present the antigens to other immune system cells (T lymphocytes) to stimulate them into a variety of activities to protect the body.

The cells that are involved in cutaneous histiocytoma are usually histiocytes of Langerhans cell origin. They are named after a medical student, Paul Langerhans, who first recognized these cells under the microscope. Langerhans cells also help prevent damage to the skin by UVB radiation and therefore are protective against other types of skin cancer.

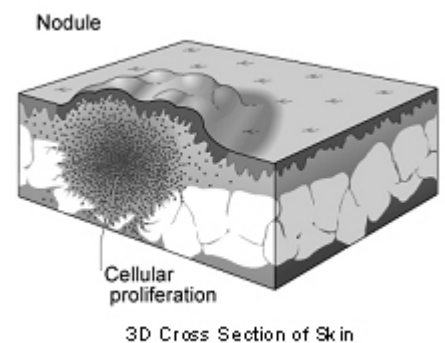
What is a cutaneous histiocytoma?

This is a common benign tumor of Langerhans cells. 99% are permanently cured by removing them surgically. In their early stages, over the first 1–4 weeks, they grow rapidly. During this period of rapid growth, they often ulcerate and may become secondarily infected. Later they may regress spontaneously.

What do we know about the cause?

"Spontaneous self-cure is common."

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?

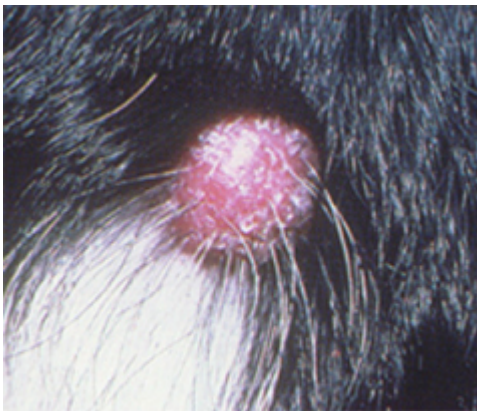
This is a common tumor. Most dogs affected are less than six years of age, occasionally as young as eight weeks. The tumor can occur in any breed but some breeds appear to be more susceptible to the tumor. These include Boxers and Bull terriers.

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. Usually, these tumors are removed because of ulceration, infection and bleeding. It has been known for a dog to die from secondary infection of an untreated tumor.

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?



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Clinically, this tumor has a typical button-like appearance. Accurate diagnosis relies upon microscopic examination of tissue. Depending on the location, your veterinarian may recommend one or more methods of obtaining a tissue sample for diagnosis. The most common methods include needle aspiration, punch biopsy and full excision biopsy. The sample will then be examined by either cytology or histopathology. Cytology is the microscopic examination of aspirated cell samples. This is used for rapid or preliminary assessment. 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. Your veterinarian may submit a small part of the mass (biopsy) or the whole lump (an excision biopsy). If your veterinarian performed an excision biopsy, the pathologist will also assess whether the cancer has been completely removed.

"Cutaneous histiocytomas are usually wrongly diagnosed as malignant by human pathologists."

Although cutaneous histiocytomas are usually benign, histopathology will rule out other more serious cancers. It is important that histopathology is performed by an experienced veterinary pathologist as cutaneous histiocytomas 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 that require surgical intervention.

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, you need to keep the incision site clean and dry, and prevent your pet from rubbing, licking, biting or scratching at it. Report any loss of sutures or significant swelling or bleeding to your veterinarian. If you require additional advice on post-surgical care, please ask.

Are there any risks to my family or other pets?

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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