

Plasmacytic 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 eliminated 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 about tumors and their treatment in animals is improving all the time.

We understand that this can be a very worrying time. If you have any questions, please do not hesitate to ask us.

What are plasmacytes or plasma cells?

Plasma cells (plasmacytes) are specialized cells that function as part of the body's immune system. They are formed from 'B'– type lymphocytes.

"Their function is to make antibodies (immunoglobulins) to combat disease."

Their function is to make antibodies (immunoglobulins) to combat disease. The cells are normally found in lymphoid tissue, and within mucosal surfaces such as the intestine. They move into other tissues such as the skin when antibodies are required, for example to respond to a bacterial or viral infection.

What are plasmacytic tumors?

Plasmacytomas in the skin are usually solitary benign tumors that grow rapidly but rarely recur after surgical removal. Malignant tumors are very rare.

Extramedullary plasmacytoma is the name sometimes given to tumors that arise in the gastro–intestinal tract (particularly the mouth and rectal (back passage) part of the intestines). These tumors tend to be more malignant than those in skin and recur locally and spread to the local lymph nodes ("glands"). Sometimes more than one tumor is present.

Multiple myeloma is a rare, malignant plasma cell cancer affecting the bone marrow and other blood producing organs.

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 the culmination of a series of circumstances that come together for the unfortunate individual.

Cancer is the result of non-lethal genetic damage to cells (mutation). Causes include radiation, chemicals, hormones and infections. The mutated cells upset the normal regulation of cell death and replacement. They do this by activating growth-promoting oncogenes (cancer genes), inactivating suppressor genes and altering the genes that regulate normal, programmed cell death (apoptosis).

"In humans, risk factors include exposure to petroleum products and radiation."

We know little about the specific stimuli that make plasma cell tumors develop but in humans, risk factors include exposure to petroleum products and radiation. Chronic Herpes viral infection has also been implicated.

Why has my animal developed this cancer?

Some animals have a greater tendency (genetic susceptibility) to cancer. Some breeds have far more cancers than others, often of specific types. In other cases, an animal has been exposed to factors in the environment that cause or promote cancer.

Is this a common tumor?

These are uncommon skin tumors in dogs, but occur mainly in middle aged to older animals with an average age of occurrence of 10 years.

"The precise incidence is uncertain."

They are rare in cats. The tumors can be difficult to diagnose and, since they have been given several different names, the precise incidence is uncertain.

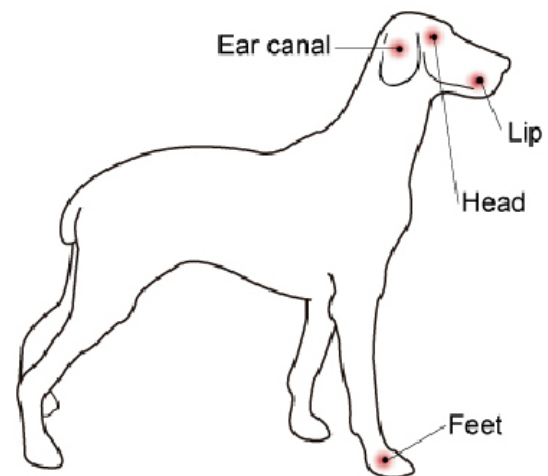
How will this cancer affect my pet?

Skin plasma cell tumors are raised lumps $\frac{1}{4}$ to $\frac{3}{4}$ inches in diameter. They may be hairless, ulcerate, bleed or put physical pressure on the surrounding structures. Most are on the head, feet, lips and in the ear canal. Animals with plasma cell tumors on the skin do not show signs of illness. These tumors are usually cured by surgical removal.

Oral plasma cell tumors are usually on the lips and gums and are similar in size to those in the skin. They may ulcerate and bleed, which may cause discomfort when your pet is eating.

Plasma cell tumors in other parts of the digestive tract usually have clinical signs associated with digestive problems or difficulties in passing bowel movements. These clinical signs are the same for the many different types of tumors that occur at these sites.

Plasma cell tumors of the bone (multiple myeloma) cause pain and lameness. There are often signs of general disease such as loss of body condition and fatigue.



How is this cancer diagnosed?

Clinically, skin tumors resemble several other types of tumor so definitive diagnosis relies upon microscopic examination of tissue by cytology or histopathology. To obtain the appropriate samples, your veterinarian may recommend one or more of various sampling techniques such as needle aspiration, punch biopsy and full excision.

Cytology is the microscopic examination of cell samples. This is useful for rapid or preliminary screening and can be diagnostic for these tumors. Histopathology is the microscopic examination of tissue samples that have been specially prepared and stained. Histopathology will give the most accurate diagnosis and prognosis (prediction of behavior). Histopathology also rules out other forms of cancer. Your veterinarian will submit the samples to a specialized laboratory for examination and diagnosis by a veterinary pathologist. Although the submitted piece of tissue may be a small part of the mass (biopsy) or the whole lump, only by examining the entire lump will the pathologist be able to indicate whether the cancer has been fully removed.

In cases of multiple myeloma with bone involvement, blood tests can help to indicate the nature of the tumor. High levels of monoclonal immunoglobulin (myeloma protein) are present. There may also be increased blood calcium and abnormal protein in urine.

What types of treatment are available?

Skin tumors are usually removed surgically and no further treatment is required.

"Oral tumors are more difficult to remove surgically and this may account for the higher rate of recurrence."

Oral tumors are more difficult to remove surgically and this may account for the higher rate of recurrence. Tumors in other parts of the digestive tract are treated surgically. Occasionally chemotherapy is used following surgery.

Multiple myeloma may require symptomatic therapy for pain and for other signs such as kidney malfunction. Chemotherapy is sometimes used.

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 cancer cells but it is rarely 100% effective. Rarely, loss of blood supply to a cancer will make it die but the dead tissue will probably need surgical removal.

How can I nurse my pet?

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

"Specific care and feeding instructions following removal of oral or rectal tumors."

After any surgery, you need to keep the incision site clean and dry and prevent your pet from interfering with it. Report any loss of stitches or significant swelling or bleeding to your veterinarian. Your veterinarian will give you specific care and feeding instructions following removal of oral or rectal tumors. If you require additional advice on post-surgical care, please ask.



How will I know if the cancer is permanently cured?

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

If the lump is sent for histopathological diagnosis, the diagnosis can be confirmed, the completeness of excision assessed and other diagnoses ruled out.

For skin tumors, the histopathology report usually indicates there can be a complete cure.

Oral and intestinal tumors may recur locally. A few in the intestinal tract are multiple or spread elsewhere. Both the local effects (pain and inability to function normally) and distant spread may cause significant distress to your pet, particularly in multiple myeloma.

Are there any risks to my family or other pets?

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

This client information sheet is based on material written by: Joan Rest, BVSc, PhD, MRCPath, MRCVS

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