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Oral Tumors - Fibrosarcoma

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 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 fibrosarcomas and related tumors?

Oral **fibrosarcomas** are rapidly growing, malignant tumors originating from the fibrous connective tissue of the mouth. The tumors are rarely cured by surgical removal. Recurrence in the mouth and spread to other parts of the body (metastasis) are common.

A few of these cancers have numerous 'giant cells' that contain many nuclei instead of one nucleus. These tumors are called **'giant cell tumors'**. They behave like fibrosarcomas and frequently recur although they rarely metastasize. The tissue origin or giant cell tumors are uncertain. A rare cancer of the blood vessels, **'epithelioid angiosarcoma'**, occurs around the tooth roots. It is too rare to be certain about behavior, but it will probably be similar to fibrosarcoma.

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 essentially the result of non-lethal genetic damage to cells with "external" contributory factors that may be chemical, physical and/or traumatic. 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).

Why has my pet developed this cancer?

Some animals have a greater tendency (genetic susceptibility) to cancer and some breeds have far more of these cancers than others. In cats, feline sarcoma virus (FeSV) does not cause oral fibrosarcomas are not caused by, but feline leukemia virus (FeLV) may contribute to their development.

Are they common tumors?

"In dogs, oral fibrosarcomas represent between 17 percent and 26 percent of all mouth tumors."

In dogs, oral fibrosarcomas represent between 17 percent and 26 percent of all mouth tumors. A quarter of these tumors are recorded in dogs less than five years of age. Some types occur in young animals, even less than a year of age. Larger dogs, particularly Golden Retrievers, are more predisposed to develop the tumors than smaller breeds. Tumors are also more common in male dogs than in bitches. Most are on the gums with equal numbers in the upper and lower jaws. They can occur on the palate (roof of the mouth) and even, occasionally, in the tongue.

"Oral fibrosarcomas are the second most common mouth tumors in cats."

Oral fibrosarcomas are the second most common mouth tumors in cats but they still only represent approximately one in ten oral tumors. There is no breed or sex predilection. The average age of affected cats is 13 years but they may occur as early as one year of age.

How will this cancer affect my pet?

These tumors are usually noticed as swellings on the gums. The tumors frequently ulcerate and bleed, and may become secondarily infected, causing a foul odor. Other common clinical signs include drooling saliva, difficulty in eating, displacement or loss of teeth and facial swelling. There may be painful swelling of the local lymph nodes.

How is an oral fibrosarcoma diagnosed?

Clinically, oral tumors often have a typical appearance. X-rays may be useful to detect whether the tumor has invaded the bones and to guide surgery. Loss of bone adjacent to the tumor usually means a poorer outlook (prognosis) because malignant gum tumors destroy bone whereas benign ones tend to make the adjacent bone grow.

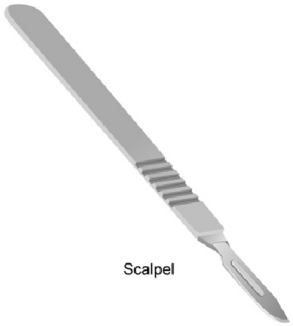
"Malignant gum tumors destroy bone whereas benign ones tend to make the adjacent bone grow."

Accurate diagnosis of these tumors requires microscopic examination of tumor tissue. Cytology, the microscopic examination of cell samples, is not diagnostic for these tumors. Definitive diagnosis, prediction of behavior (prognosis) and an assessment of the completeness of tumor removal rely on microscopic examination of tissue (histopathology). Histopathology also rules out other cancers. Your veterinarian will submit either a small part of the mass (biopsy) or the whole lump to a specialized laboratory, where a veterinary pathologist will examine and diagnose the lesion. If your veterinarian submits the entire mass, the pathologist may be able to indicate whether the cancer has been completely removed.

Most fibrosarcomas invade the bone of the jaw. For complete removal, they need wide surgical margins usually including substantial parts of the jawbone. Tissue samples that contain bone will need decalcifying so it may take be a few weeks before the final histopathology results are available.

What types of treatment are available?

"Surgical removal is the standard method of treatment for all oral tumors."


Scalpel

Surgical removal is the standard method of treatment for all oral tumors. The invasive cancers are difficult to remove completely so large pieces of the jawbone may be removed (hemimaxillectomy or hemimandibulectomy). Dogs (particularly when young) respond well to this radical surgery. If your pet requires one of these complex and extensive surgeries, your veterinarian may refer you to a specialist at a veterinary referral center.

Fibrosarcomas do not respond to chemotherapy and response to radiotherapy is only palliative. However, one subtype, called a maxillary fibrosarcoma, which is diagnosable at its early stages, responds to radiation hyperthermia therapy.

Can this cancer disappear without treatment?

Treating infections and healing ulcers will help reduce superficial swelling, but will not cure the cancer. Very occasionally, spontaneous loss of blood supply to the cancer can make parts of it die but the dead tissue will still need surgical removal. The body's immune system is not effective at making these tumors regress.

How can I nurse my pet?

After surgery, your pet will need to wear an "Elizabethan collar" to prevent damage to the surgical site. If your pet also requires a special diet, this will be discussed with you. Your veterinarian may request that you do not try to examine the surgery site in the early post-operative period. However, if your pet is unable to eat or develops significant swelling or bleeding, you need to contact your veterinarian immediately. If you require additional advice on post-surgical care, please ask.

How will I know how this cancer will behave?

"The histopathology report will give your veterinarian the diagnosis that helps to indicate how it is likely to behave."

The histopathology report 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) and if the entire mass was submitted for examination, will usually assess the completeness of excision.

When will I know if the fibrosarcoma is permanently cured?

In dogs, survival after local surgical removal is sometimes as short as one month before recurrence necessitates euthanasia. Major, radical surgery can result in tumor-free time as long as 32 months but the median survival is only seven months, and only about one half of cases will survive beyond one year. Fibrosarcomas located closer to the front of the mouth are usually easier to treat so have a better prognosis.

A cancer called "undifferentiated sarcoma of palatine origin" is a separate subgroup that occurs near the upper carnassial (large back) teeth in large breeds less than 4 years of age. This cancer is particularly aggressive and life expectancy is shorter than for other fibrosarcomas.

Maxillary fibrosarcoma may respond to radiation hyperthermia therapy.

In cats, there are usually post-surgical complications and survival is often only a few months. Tumors at the front of the mouth, and not crossing the midline if they are in the upper jaw, have the best prognosis.

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 pets to people.

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