

## Benign Fibrous Masses Including Hamartomas

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?***

Fibrous tissue consists of long fibres of the protein, collagen. These fibers form part of specialized tissues such as bone and cartilage but most are in loose or linear arrangements within low cellularity ground substance. This ‘connective tissue’ is present throughout the body connecting and supporting organs and systems. The basic cell responsible for fibre production is a fibroblast. Overactivity in local areas can produce fibrous tissue masses, mostly slow-growing, non-cancerous and with several names. A few are considered to be benign cancers so are called “fibromas”.



Image courtesy of Jan Hall, BVM&S, MS, MRCVS, DipACVD, Clinical Dermatology, Ontario Veterinary College

The names for the non-cancerous fibrous growths include “collagenous hamartoma”, “fibroepithelial polyp”, “skin tag”, “cutaneous tag”, “hyperplastic or hypertrophic scar” and “acrochordon”. A “hamartoma” is defined as a nodular, poorly circumscribed focus of redundant tissue. The ones considered here are formed from fibrous tissue (collagen). Some include hair follicles and glandular structures. They may then be called fibroadnexal hamartoma (“fibroadnexal dysplasia” or “focal adnexal hyperplasia”). Follicular hamartoma (hair follicle nevus) is a subcategory.

‘Nodular dermatofibrosis’ is a syndrome of multiple dermal and subcutaneous nodules of the lower hind limbs of dogs. These masses are the exception to most fibrous tumors as they are not permanently cured by surgical removal.

### ***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.

Many of these tumors or overgrowths are fibrous tissue reactions to previous damage. This includes chronic trauma, skin infections such as pyoderma and the end stage of benign regressed tumors such as canine histiocytoma and mastocytosis. Multiple lesions have been noted in some dogs and some could be the end stage of viral papillomas (warts). Some may be congenital malformations; these are called “nevi”.

Nodular dermatofibrosis is linked to malignant tumors of the kidneys. It is not known if all dogs with dermatofibrosis also develop the kidney problems. The nodules are said to result from growth factors released by the kidney tumor.

### ***Are these common growths?***

These are common growths in dogs but unusual in cats.

Nodular dermatofibrosis is found in German Shepherd dogs, Labradors and some other breeds, mainly in bitches.

### ***How will this growth affect my pet?***

The main problems are physical due to the size or superficial site of the growths. They frequently ulcerate and bleed and may become secondarily infected.

Fibroaxillary hamartomas are usually on the distal limbs and pressure points. They are often hairless or ulcerated. Affected animals are usually middle-aged or older when the lesion is noticed.

Follicular hamartoma is said to be a congenital abnormality of the follicles but is often not clinically apparent until later in life. They are uncommon in dogs and frequently multiple. The nodules or plaques have thick hairs. The number of nodules may increase and they may expand up to 2 inches in diameter. They are not of clinical significance although they may look worrying.

Nodular dermatofibrosis nodules are of no clinical significance themselves but there may be accompanying kidney adenocarcinoma. This may take two years to develop.

### ***How are these diagnosed?***

Clinically, these growths may not be distinguishable from other benign tumors and inflammatory lesions. A few malignant tumors may have confusingly similar appearance.



Accurate diagnosis relies upon microscopic examination of tissue. Cytology (microscopic examination of cell samples) is not diagnostic for this group of tumors. 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 but only examination of the whole lump will indicate whether the cancer has been fully removed. Histopathology also rules out other more serious problems.

### ***What treatment is available?***

Treatment is surgical removal of the lump, sometimes because it is causing physical problems and sometimes to check that nothing else of a more serious nature is wrong.

### ***Can this tumor disappear without treatment?***

These masses may reduce in size as the fibrous tissue matures, inflammation reduces or infection is eliminated. However, most remain as solid tissue masses and will not disappear entirely without surgical removal. Spontaneous loss of blood supply to the mass with resulting death of the tissue is rare except in polyps with thin necks joining them to the body. The dead tissue will still need removal. The body's immune system is not effective in causing this type of tumor to regress.

### ***How can I nurse my pet?***

Preventing your pet from rubbing, scratching, licking or biting the lump will reduce itching, inflammation, ulceration, infection and bleeding. 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.



### ***How will I know if the problem is permanently cured?***

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

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

Investigation of kidney function and further measures may be needed when nodular dermatofibrosis is diagnosed.

### ***Are there any risks to my family or other pets?***

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