

Canine Mammary Tumours

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Mammary gland ("breast") tumours are the most common type of tumour in the unspeyed female dog. Breeds at risk for developing mammary gland tumours include toy and miniature Poodles, Spaniels, and German Shepherds. The average age of dogs at diagnosis is 10-11 years. There can be a single or several tumours, and they can occur in one or more glands. The last two sets of glands (the 4th and 5th glands) are most commonly affected. The tumours can be firm or soft, well-defined lumps or diffuse swellings. Tumours can be attached to underlying tissues or moveable, skin-covered or ulcerated. They can be different sizes, and they may grow slowly or quite fast.

Most dogs are seen by the veterinarian for signs associated with the primary tumour and are otherwise feeling well. A few dogs are diagnosed with advanced metastasis (tumours that have spread to elsewhere in the body, such as the lungs and lymph nodes) and might be feeling ill from their tumours when they come for treatment.

The risk for developing mammary gland tumours is closely associated with exposure to the female sex hormone oestrogen in the early years of development. This is a disease of female dogs and is extremely rare in males. Oestrogen is necessary for normal mammary gland development. However, it may also be involved in the initial stages of cancer development that leads to tumours many years later. Estrogens may also provide continued stimulation to tumours & therefore contribute to tumour progression.

Hormonal therapy is a common treatment in women with breast cancer and may also be helpful in the treatment of canine mammary gland tumours. Early spaying (ovariohysterectomy: removal of the ovaries and uterus which removes the source of oestrogen) may significantly decrease the risk for tumour development.

Studies have shown that spaying a dog before her first, second, or third heat cycle can significantly decrease the risk for developing mammary gland tumours later in life.

Mammary gland tumours can be either malignant (cancerous) or benign (non-cancerous) and arise from the different types of tissues (epithelial or glandular tissues, and mesenchymal or connective tissues) in the mammary gland. The most common types are tumours from the glandular tissues and include adenoma, carcinoma, and adenocarcinoma. Half of all mammary gland tumours are benign and can be treated successfully with surgery alone. The other half are malignant and have the potential for metastasis.

The outcome for patients with malignant mammary gland tumours depends on several factors including tumour type, histologic grade (appearance of the tumour cells under the microscope and how similar or dissimilar they are to normal tissues), tumour size, and tumour stage (presence of regional and distant metastasis).

We recommend that all mammary gland masses are surgically removed and biopsied to determine the tumour type. Dogs with benign tumours usually do not require further treatment, but cases with malignant tumours should be staged (evaluated for metastasis by tests such as chest X-rays and abdominal ultrasound).

Dogs with small (less than about 1 inch diameter) low histologic grade carcinomas and adenocarcinomas with no evidence of metastasis may be treated effectively with surgery alone. Dogs with large or invasive tumours, high histologic grade, sarcomas (tumours of mesenchymal origin), lymph node involvement and/or other sites of spread are at risk for both recurrence of the original tumour and metastasis.

Hormonal therapy in the form of ovario-hysterectomy may be beneficial in unspeyed dogs with carcinomas or adenocarcinomas. A recent study at the Veterinary Hospital of the University of Pennsylvania showed that dogs spayed either at the same time of their tumour removal or within two years prior to the tumour surgery lived significantly longer than dogs that remained unspeyed after their tumours were removed.



Chemotherapy may also be indicated in dogs with aggressive tumours. Chemotherapy has been shown to be effective in individual dogs with metastatic adenocarcinomas, but there are no large studies that prove the benefit of chemotherapy in dogs suspected of being at risk for metastasis.

Owners can play an important role in their dog's health. The protective effect of early ovario-hysterectomy is substantial, and dogs that are not intended for breeding should be spayed before their first or second heat. Obesity and a high fat diet in the first year may also increase the risk for tumour development, so not overfeeding young growing dogs could be beneficial. Owners should examine their dogs at regular intervals for any lumps, bumps, or swellings and take them for yearly veterinary checkups. All lumps should be surgically removed and biopsied.

Early diagnosis and treatment are crucial for a good outcome.

Canine mammary tumours have many similarities to breast cancer in women. In both, it is a disease that affects the middle-age to older patient, and the most common tumour types are the same. The treatments are similar, and patients with small tumours and early, localized disease can be cured. However, for patients with tumours that have spread elsewhere in the body, the prognosis is not good. Canine mammary gland tumours are excellent models for breast cancer in women, and clinical research studying mammary gland tumours in dogs has the potential to benefit both dogs and women.

Footnote :

In the vet magazine, Vetzine, there was an article on mammary tumours and a study has shown that dogs fed on homemade diets (such as BARF) are more likely to develop mammary tumours than those fed on commercial diets. The website address is :- www.egroups.com/messages/vetzine .

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