Mammary Tumors

Overview
Mammary tumors (breast cancer) are among the most common tumors of the female dog and cat. As one might expect, these tumors are very rare in male dogs and cats. Mammary tumors (MT) are more likely to develop in older animals. Dogs that are unspayed or spayed late in life are at greater risk for development of mammary tumors. MT is malignant (cancerous) in approximately half of dogs and approximately 85% of cats. Most malignant tumors arise from epithelial cells of the mammary tissue and are called carcinoma.

Signs and symptoms
MT can be identified as single or multiple nodules; these nodules could be as small as a BB or larger than a golf ball. They are usually not painful. As part of regular home exams you should run your hands over your dog's entire body to check for lumps anywhere. Be sure to spend time examining the mammary chain in your female dog; this chain runs from the entire length front to back of the skin on the underside of your pet. It is easiest to detect mammary nodules if feeling along the loose skin when your pet is standing.

Diagnosis
If you feel a lump anywhere on your pet, you should take her to your family veterinarian for an exam. Your veterinarian may recommend a simple procedure called aspiration cytology. This involves inserting a needle into the lump to extract some cells to place on a slide for examination by a pathologist. This test can determine if the cells in the lump are from mammary tissue, ie, not a cyst or some other kind of skin cancer, but cannot usually differentiate between benign vs. malignant mammary cells. If your veterinarian determines the lump is from mammary tissue based on cytology or suspects a MT based on experience, he or she will recommend removal. Lung x-rays and examination of lymph nodes near the MT to evaluate for metastasis (spread of cancer cells to secondary locations) are common procedures that are performed prior to surgery.

Treatment and aftercare
Surgical removal is performed either by a small lumpectomy (removal of just the lump) or wide excision depending on the best judgment of your veterinarian. The lump is submitted for histopathology (biopsy) so a pathologist may provide information about cell type, whether it is benign or malignant, tumor grade if malignant, and margins. If a lumpectomy has been performed, and the pathologist determines the tissue is malignant, a second surgery will be recommended to achieve sufficient margins to assure the tumor will not recur in that location. If the tumor is benign, no further therapy is necessary.
The role of complete, bilateral mastectomy (removal of all of the mammary tissue on both sides) is controversial. It is utilized to remove all mammary tissue that may develop a new MT at a later date but is associated with a longer recovery time compared to a smaller surgery. Your veterinarian or a veterinary oncologist can discuss the pros and cons of this procedure for your pet if she is diagnosed with mammary cancer.

If your pet is not already spayed, this is recommended at the time of the mammary lump surgery because there are less health risks for an aging dog or cat that is spayed, and the chance of development of benign tumors is lower even if she is spayed later in life.

The role of chemotherapy for high grade or metastatic mammary tumors is undefined. It is clearly useful for some patients and is generally well-tolerated. The value of chemotherapy for individual patients is best discussed with a veterinary oncologist.

**Prognosis**

The prognosis for a benign tumor is excellent after removal. The prognosis for a malignant tumor is dependent on size (so be sure these MT are identified and removed when small), grade of tumor (how aggressive a cancer appears under the microscope to a pathologist), margins, and extent of cancer in the body based on lung x-rays and lymph node evaluation.

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