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MAMMARY TUMORS

What is it? Mammary tumors are lumps or masses involving the mammary glands. Mammary masses in dogs can be either benign or malignant, and the same dog can have both benign and malignant masses present at the same time. Approximately 90% of mammary tumors in cats are malignant.

What animals are affected? Any animal can be affected; however, they occur more frequently in females. Intact females (those that have not been spayed) or were spayed after 2 years of age are at higher risk for developing mammary tumors. Dogs treated with hormones are also at increased risk. Obesity may also increase the incidence of mammary tumors.

What are the clinical signs? Animals with mammary masses often have no clinical signs other than the presence of one or more lumps associated with the mammary glands. Some tumors are very small and firm (like bb's), and some can become quite large, ulcerated and inflamed. Inflammatory carcinomas are very painful and swollen, and may cause inappetance, weight loss and weakness.

How is it diagnosed? Diagnosis of what type of mass is present (mammary vs. some other type of tumor) is done with fine needle aspirate (FNA) and cytology (inserting a needle into the mass and sucking out some cells with a syringe and then placing them on a slide for evaluation) or by biopsy (obtaining a piece of tissue from the tumor by removing part or more typically all of it and then examining it histologically). FNA will not tell you if the mass is malignant or benign, but it can help determine if it is a mammary tumor or some other type of tumor. Biopsy typically yields a more definitive diagnosis and is usually done *after* excision of the mass +/- the affected glands. It is prudent to take thoracic radiographs to evaluate the lungs for any signs of metastasis (spread of the tumor) prior to surgery, especially in cats.

How is it treated? Surgical removal is recommended in all mammary tumors except inflammatory carcinomas. These are so aggressive and carry such a poor prognosis that surgery is not indicated. The masses can be removed via lumpectomies (removing just the lump) or mastectomy (removing the lump and associated mammary gland). If multiple mammary glands are involved, radical mastectomy (removing the entire mammary chain and associated lymph nodes) is recommended. If the patient has not been spayed, ovariectomy may also be recommended. This procedure will not prevent the development of new tumors, but will eliminate hormonal influence on existing tumors and will prevent other uterine diseases such as pyometra. Chemotherapy may also be recommended after surgical removal of some types of tumors.

What is the aftercare? The patient will remain hospitalized at least one night after surgery for monitoring and pain management. Restricted activity for 2 weeks and routine incision care is also recommended. If the tumors are malignant, periodic rechecks for recurrence and metastasis are recommended.

What is the prognosis? Prognosis for patients with benign mammary tumors is very good and surgery is curative. Dogs often respond very well with complete excision of malignant mammary tumors as well, as long as metastasis has not occurred. Smaller masses tend to carry a better prognosis. The prognosis for cats with malignant mammary tumors is guarded. Animals with inflammatory carcinomas have a very poor prognosis.

Can it be prevented? Ovariohysterectomy (OHE-removing the ovaries and uterus) or ovariectomy (OE-removing the ovaries) performed before two years of age *does* have a protective effect and significantly reduces the development of mammary tumors. After two years of age, OHE or OE no longer influences the incidence of mammary tumors in dogs. Avoiding obesity and administration of hormones can also decrease the risk. Spaying at any age can reduce the risk of mammary tumors in cats 40-60%.

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