

Mammary Neoplasia (Breast Cancer) in Dogs

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Mammary neoplasia, i.e. breast cancer, is the most common tumor in female dogs, and is much more common in intact bitches or those spayed later in life. This is a significant consideration for breeders, whose bitches are often left intact until their later years, or not spayed at all.

Bitches that are spayed before their first heat cycle have a dramatically decreased incidence of mammary tumors as compared to bitches who are left intact. Dogs spayed before their first heat have a 0.5% of developing mammary cancer. Those spayed after one heat have an 8% chance, and those spayed after their second heat have a 26% chance of developing mammary neoplasia, as compared to intact animals. Overall, intact bitches have a four times greater chance of developing mammary tumors, either benign or malignant, as compared to spayed animals. There is no sparing effect of pregnancy in the development of mammary tumors as occurs in women. In other words, having a litter will **not** decrease the incidence of this disease. There is an equal likelihood of benign vs. malignant tumors, and there is no breed predilection. Male dogs can develop mammary cancer, but it is very rare.

Mammary neoplasia occurs most commonly in bitches over six years old, either spayed after four heat cycles or left intact, and is more common in purebreds than in mixed-breed dogs. Masses are usually found during routine veterinary examinations or by the owner. Rarely, they cause pain and licking by the bitch. Masses most commonly occur in the pair of mammary glands closest to the tail, and are usually firm and moveable, and may be smooth or lumpy. The feel of the mass (smooth vs. lumpy) does not correlate with its type (benign vs. malignant).

The treatment for **all** mammy masses is surgical removal and biopsy. Biopsy will determine if the mass is benign or malignant. Xrays of the chest should be taken prior to surgery to check for metastasis (spread) to help gauge the bitch's prognosis. There are various surgical procedures depending on the size and number of tumors present; your veterinarian will advise you on which is the best procedure depending on physical exam findings. Bitches with metastasis have the poorest prognosis, as do those that present with tumors greater than 2-3 centimeters at the time of diagnosis. Overall, 75% of bitches with malignant tumors survive less than two years after surgery. Chemotherapy is not particularly effective, and hormone therapy found useful in human females has not been reported to be useful.

Overall, spaying of pet bitches before their first heat cycle is an important consideration for breeders when preparing the stipulations of their companion vs. show contracts. Show or breeding bitches left intact until later in life should receive routine examinations to locate tumors while they are still small and the prognosis is good. Any masses in the mammary area should receive prompt veterinary attention and removal.

Reference:

Kustritz, Margaret V. Root. *The Practical Veterinarian: Small Animal Theriogenology*, Chapter 14. Elsevier Science. 2003.

Note: The Bibliography for this Chapter cites numerous scientific references for those interested in more information on this topic.