

NEWS FROM THE WORLD OF ONCOLOGY

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Canine Mammary Gland Tumours

Mammary gland tumours (MGT) are not commonly seen in North America because of the high incidence of adolescent spaying, before the onset of the first estrus. When a dog is spayed before her first estrus, she will have a 0.05% chance of developing MGT. When spayed after the first estrus the risk increases to 8% and when spayed after the second estrus a dog will have a 26% chance of developing MGT. Besides spay status other factors are associated with increased risk for developing MGT. Spaniel breeds, Poodles and Dachshunds have demonstrated an increased risk. Larger breed dogs are at much higher risk for developing malignant tumours versus small breed dogs. Dogs that are obese at the age of 1 have a higher risk of developing MGT, as do dogs that are fed homemade diets compared to commercial diets.



When considering a MGT on a dog each tumour is considered separately. This means that if a dog has three tumours there is no higher risk that any one tumour will be malignant, they each carry the same risk. For any given mass found in the mammary chain of dogs there is a 50% chance that the mass is malignant. For each malignant mass there is a 50% chance it will have already spread by the time it is clinically apparent. Therefore any clinically apparent MGT has a 25% chance of being malignant AND having spread by the time it is diagnosed. Therefore with a malignancy rate of 50%, MGT should clearly not be ignored or observed. Action must be taken.

When a mammary mass is noted the first step is to FNA the mass. Carcinomas tend to exfoliate poorly and therefore any result that is non-diagnostic or suspicious calls for further action. Surgery is the hallmark of therapy for the treatment of MGT. Staging before radical surgery is appropriate and would include three view chest radiographs and an abdominal ultrasound.

The type of surgical intervention recommended will depend on the size and location of the tumour. Dogs have 5 sets of mammary glands. Mammary glands 1,2, and 3 share common lymphatic drainage while glands 4 and 5 share common lymphatics. There is little to no cross over from the left chain to the right chain. If a MGT is <0.5cm, the appropriate surgery would be a lumpectomy. Recommended margins are 2 cm. If the mass is >0.5cm then the mammary gland should be removed. Solitary mastectomy is not considered appropriate. The appropriate approach would be a regional mastectomy so that if a tumour occurs in mammary glands 1,2 or 3 those glands would be removed en bloc with 2 cm margins. If the tumour occurs in glands 4 or 5, they would be removed en bloc, again with 2cm margins. Mammary tumours are most commonly found in glands 4 and 5 and this is thought to be due to the large mass and blood supply associated with the caudal most glands.

Chemotherapy is usually recommended for adjunctive care following surgery. Survival times can be as great as 2 years. However MGT with invasive, ductular or inflammatory histopathology carry a worse prognosis. This is especially true for ductular and inflammatory MGT. COX-2 expression is noted in most canine MGT and COX-2 inhibition is usually combined into most of my treatment protocols. Anti-estrogen therapy, as used in women with breast cancer, carries a high risk of side effects in dogs and is not currently recommended.

Dr. Kevin Finora is a board certified Oncologist and Small Animal Internist. He sees patients Wednesday (including evenings) to Saturday at VEC/RC South. Please do not hesitate to contact Dr. Finora if you have any cancer related questions.

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