

NEWS FROM THE WORLD OF ONCOLOGY

KEVIN FINORA DVM, DIPLOMATE ACVIM (ONCOLOGY AND SMALL ANIMAL INTERNAL MEDICINE)

Transitional Cell Carcinoma

Bladder cancer is rare in dogs and accounts for about 2% of all canine tumours. The majority of bladder tumours are transitional cell carcinoma (TCC). Bladder tumours are extremely rare in cats. In most cases dogs with TCC will present for stranguria, pollakiuria and hematuria. Signs may have been present for some time, and are often initially not noticed by owners. Initial work-up will usually involve urine analysis and urine culture. There is often a transient improvement with antibiotic therapy, but clinical signs will inevitably return. In most cases ultrasound examination is necessary to determine the presence of a mass within the bladder. TCC can involve any structures with urothelium including the urethra, prostate and bladder.



TCC of the canine bladder is usually high grade and infiltrative. This differs significantly from TCC in people, which is usually a low-grade disease. Several risk factors have been associated with the development of TCC. Obesity, female gender and exposure to insecticides and herbicides are all associated with a higher risk of TCC development. Scottish Terriers have a significant breed disposition to the development of this tumour. Scotties are 18 times more likely to develop TCC compared to mixed breed dogs.

Once a bladder mass has been diagnosed patients should be staged with complete abdominal ultrasound and three view chest radiographs. The metastatic rate at the time of diagnosis is moderate (14-16%) but climbs to 50% by the time of death from TCC. The most common sites of metastasis are local regional lymph nodes, lungs and bone. A biopsy is necessary to make the diagnosis. Biopsies can be obtained by traumatic catheterization, cystoscopy or surgery. Percutaneous FNA is not recommended as tumour seeding along the biopsy tract has been reported. Recent attention has focused on the utility of a urine antigen test for TCC and the utility of the microalbuminuria test. These tests have a moderate degree of sensitivity (i.e. good for screening) but they lack the specificity necessary to make a diagnosis.

Surgery is often difficult due to the location of the tumour. In most cases the tumour is localized to the trigone of the bladder, making complete removal of the tumour near impossible. If a mass is located away from the trigone there is a much greater likelihood of complete surgical removal. However, recent data have suggested that surgery to debulk tumours will lead to longer survival times and more immediate and persistent resolution of clinical signs. From a tumour biology standpoint, it makes most sense to decrease the tumour burden as much as possible prior to starting chemotherapy treatment. I will, in almost all cases, recommend surgery as the first step in the treatment of TCC.

TCC is a tumour that expresses the Cox-2 receptor (in both dogs and cats). For this reason Cox-2 inhibition is considered a standard part of therapy for this tumour. When surgery is used alone the average survival time is 106 days. When piroxicam is used as a sole therapy the average survival time is 195 days, with a 20% one-year survival rate. Mitoxantrone is the chemotherapeutic agent noted to have the most activity against TCC. When used alone this drug has efficacy similar to piroxicam. However, when the two drugs are used together, the average survival time is significantly greater than with either one alone at about 300 days. When surgery, piroxicam and mitoxantrone are used in a combined approach to treatment survival approaches 1 year (350 days). I typically will recommend this three-pronged approach for the treatment of TCC. Close attention must be paid to renal values as Cox-2 inhibitors can be nephrotoxic and an eventual complication of TCC can be the development of hydronephrosis.

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.

**TO BOOK AN APPOINTMENT WITH A VEC SPECIALIST PLEASE CALL (416) 920-2002
This and other VEC faxes can now be downloaded online at
<http://www.vectoronto.com/newsletter.php>**