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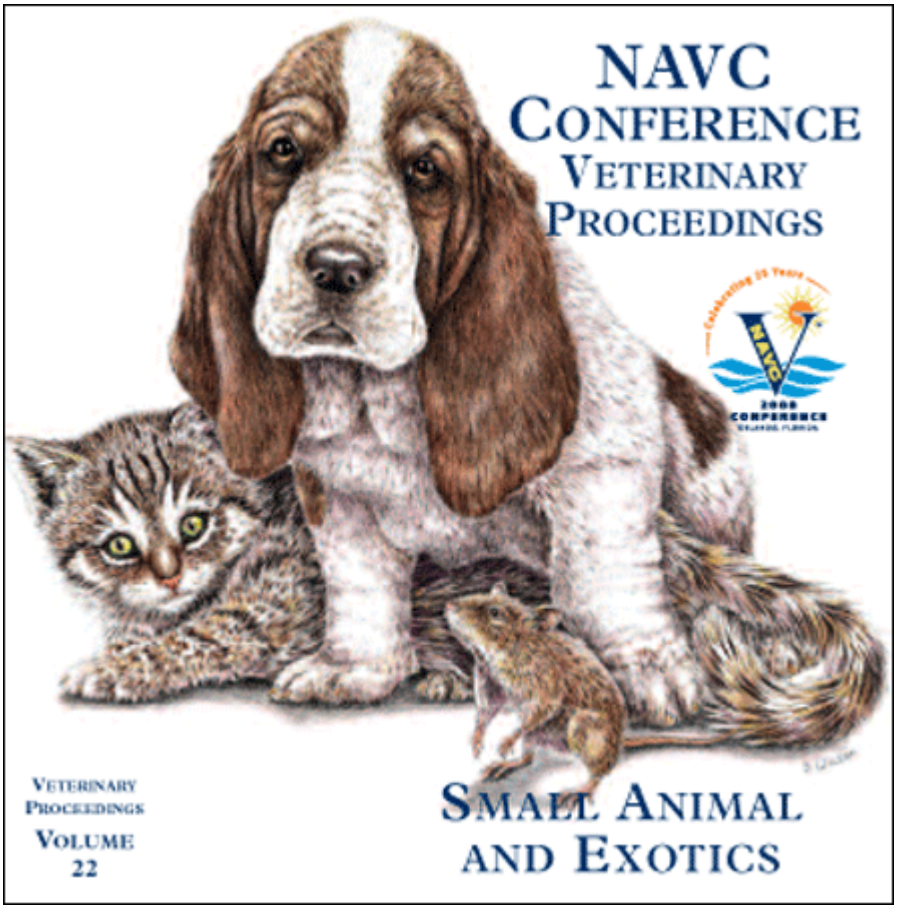

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IMMUNOTHERAPY IN THE TREATMENT OF CANCER OF THE BLADDER AND URETHRA IN DOGS AND CATS

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Transitional cell carcinoma (TCC) of the bladder and urethra is the most common neoplasia of the lower urinary tract in dogs and cats. It is often localized in the bladder neck area and extending into the urethra; therefore, surgical management would interfere with maintenance of bladder storage function and urinary continence. Furthermore, prognosis is poor due to malignant biological behavior. Currently, the administration of mitoxantrone and platin derivatives[3] or mitoxantrone and piroxicam[4] have been favored by oncologists in cases unsuitable for surgical management with median survival times (MST) of 358 days and 291 days, respectively. Local infiltration of canine and feline lower urinary tract carcinomas with the cytokine interleukin-2 (IL-2) has shown promising results in a pilot study[2] and has been used since by the author in selected cases. Anti-tumor activity of IL-2 against TCC may be the result of increased release of toxic granula by eosinophils.[1] We report the results of a retrospective analysis of a treatment protocol using local human recombinant IL-2 administration into urethral and bladder carcinomas by endoscopy or during ablative surgery and adjunctive oral meloxicam administration.

Thirteen dogs, four male and nine female, with a mean body weight of 17,2 kg and a mean age of 11 years presented with signs of hematuria and dysuria and various other inconsistent clinical symptoms were diagnosed to have TCC of the bladder (13 dogs) and urethra (7 dogs) by ultrasonography, cystoscopy and cytology or histology. Four of the dogs were staged worse than T1N0M0. Seven received endoscopically assisted infiltration of 9 million units of r-Hu IL-2 diluted in 2 mL glucose 5% solution and six dogs following surgical ablation of tumor tissue from the bladder neck area. Treatment was repeated in three. The same procedure was applied to four cats with TCC. Mean survival time was 310 days with clinical improvement in seven dogs; however MST was only 210 days in the dogs, while cats had a more favorable outcome of a MST of 375 days and clinical improvement in all cases. When divided by response rate, 40% of the dogs had a survival time (ST) longer than one year, while 54% had an ST shorter than 6 months. No factors related to response could be identified.

DISCUSSION

The relatively small number of cases did not allow demonstration of the benefit of surgical ablation of tumor tissue in order to minimize obstruction of the lower urinary tract and reduction of clinical signs. In the pilot study only the endoscopic approach had been used and was favored by the pet owners because of minimal invasive properties. However, rapid recovery and restoration of normal lower urinary tract function was reported by some of the owners of surgically treated dogs and cats and was the reason to ask for repetition of the procedure. The reasons why some of the dogs seemed to benefit from the treatment and others had such a poor outcome could not be identified.

The results suggest that local treatment with IL-2 injected into the tumor region by endoscopy or during ablative surgery could be useful in some dogs and in cats with TCC of the bladder and urethra.

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