

Paweł Jonkisz, Anna Kuziemska, Agnieszka Kurosad, Kamila Glińska-Suchocka ©
*Department of Internal Diseases with Clinic for Horses, Dogs and Cats, Faculty of
Veterinary Medicine, Wrocław University of Environmental and Life Sciences,
Poland*

TUMOR OF URINARY BLADDER IN DOG OF TRANSITIONAL EPITHELIUM CELLS ORIGIN – CASE PRESENTATION

Abstract. *Urinary bladder tumor of transitional epithelium cells is a common cancer observed in dogs. Transient hematuria is the most obvious clinical symptoms of that tumor. Diagnosis consist of ultrasounds, X-ray examination, cytосcopy and biopsy of lesions. Treatment is composed of surgical operation and piroxicam administration.*

Key words: *tumor, TCC-transitional cell carcinoma, dog*

Introduction

Tumors of urinary bladder are more often observed in dogs than in cats. There are almost 2% of all cancers diagnosed in dogs, and there are on the second place, after lymphoma, of urinary tract disorders list (1,7). TCC – transitional cell carcinoma occurs more often in female than male and West Highland White Terrier, Beagle, Jack Russel Terrier and Scottish terrier are predisposed for TCC. The etiology is not exactly known, but carcinogenic agents as: tryptophan metabolites, cyclophosphamide, nitro- amines, gums, paint, tobacco and chronic irritation (urinary calculi) are taking into consideration as the risk factors (6).

The typical symptoms of TTC are: hematuria, dysuria and pollakiuria. Escalation of clinical signs are depend on progression of carcinoma. Clinical symptoms maintain from several days to several weeks, but antibiotics administration resolves temporary the problem. Lesions usually occur in the area of bladder triangle. And rapid growth and expansiveness of this tumor is a characteristic feature. TTC can spread on prostate in males and vagina and uterus in females and on rectum in both sex. Growing tumors can block the urine outflow.

The main aim of article

The aim of the article was to present the case of dog, female, 7,5 years old suspected on TCC, her history, diagnosis and treatment. And may be this presentation can be a basis for diagnostic approach and standard treatment.

Material and methods

The patient was a dog, female in 7,5 years old which came to the surgery because of hematuria and polyuria. In clinical examination there is no any abnormalities. The urinary bladder was palpated as a small, non-painful and of regular shape organ. Results of blood analysis was in the reference range. Urine specific gravity was estimated on: 1,040 and the protein content in urine was 0,4g/l. In urine sediment examination a lot of erythrocytes were observed but any crystals or atypical cells were detected. In the area of urinary bladder triangle the abnormal mass

was detected by ultrasound examination. The structure was heterogenous with several focuses of mineralization. The shape of observed mass was irregular and the dimension of its largest point was 23x37mm. The mucosal membrane of the urinary bladder was smooth and urine was clear. On x-ray examination of thorax there was no detected abnormalities. Cystostomy was doing and it revealed that a large mass was localized in the area of the urinary bladder triangle. The lesion was removed partially and examined in histopathological laboratory. The diagnosis was a TCC - transitional cell carcinoma.

Dog was giving on antibiotic (amoxicillin with clavulonic acid) and on ten days after surgery piroxicam in doses: 0,3mg/kg b.w., once daily, was involved into the standard therapy. Every month clinical examination, blood and urine samples were taken. Additionally the dog was examined by ultrasounds monthly. Piroxicam was administrated for 7 months up till now and non of abnormal clinical signs were observed. Also the results of blood and urine samples were within the reference range.

Discussion

Neoplasm of urinary bladder are estimated on 2% of all tumors in dogs and TCC are the most common of them. The clinical signs of TCC are: hematuria and polyuria. Most of them are not specific for TCC. Also the blood parameters are within the reference range. In urine examination the typical sign is a lot of fresh erythrocytes. In 30% of TCC cases the atypical cell are observed in the urine sediment.

The ultrasounds is non-invasive and simply method used for diagnosis of TCC. The x-ray examination in two surfaces is also very important for proper diagnosis. The fiberoscopic examination could be an additional diagnostic method in the urinary tract disorders. The final diagnosis should be done on histopathological examination of sample taken by ultrasound controlled biopsy (8). The Polymedco Inc worked out the quick test (V-BTA test) for TCC diagnosis. It is a quality test, based on the possibilities of indication in urine the protein complex produced by the tumor. TCC are not treat by chemotherapy, because of its weak response to cisplatin or carboplatine administration (3). And all those drugs have nephro- and neurotoxic activity. So the only way to treat TCC is the surgical removing of the tumor. Pharmacological treatment is based on piroxicam administration (4,5). In TCC therapy the combination of piroxicam and cytostatic drugs, e.g. cisplatin or mitoxantrone are used, but it connects with the high risk of side –effect of that drugs` combination (2,3,5). Nowadays the research on inhibiting activity of meloxicam of TCC in dogs is conducted (4,9).

References

1. Dobson J. M., Cascelles B. D. X.: BSAVA Manual of Canine and Feline Oncology., 2003, BSAVA
2. Henry C.J. i wsp.: Clinical evaluation of mitoxantrone and piroxicam in a canine model of human invasive urinary bladder carcinoma. „Clinical Cancer Research”, 2003, 9, 906-911.

3. Knapp D.W. i wsp.: Piroxicam therapy in 34 dogs with transitional cell carcinoma of the urinary bladder. „J. Vet. Intern. Med.”, 1994, 8(4), 273-8.
4. Knottenbelt C., Chambers G., Gault E.: The in vitro effects of piroxicam and meloxicam on canine cell lines. „J. Small. Anim. Pract.”, 2006, 47 (1), 14-20.
5. Mohammed S.I. i wsp.: Effects of the cyclooxygenase inhibitor, piroxicam, on tumor response, apoptosis, and angiogenesis in a canine model of human invasive urinary bladder cancer. „Cancer Res.”, 2002, 62 (2), 356-8.
6. Morgan R. V., Bright R. M., Swartout M. S.: Handbook of small animal practice; 2003, Saunders
7. Norris A.M. i wsp.: Canine bladder and urethral tumors: a retrospective study of 115 cases (1980-1985)., J Vet Intern Med. 1992 May-Jun;6(3):145-53.
8. Vignoli M. i wsp.: Needle tract implantation after fine needle aspiration biopsy (FNAB) of transitional cell carcinoma of the urinary bladder and adenocarcinoma of the lung. „Schweiz. Arch. Tierheilkd.”, 2007, 149 (7), 314-8.
9. Wolfesberger B., Walter I., Hoelzl C.: Antineoplastic effect of the cyclooxygenase inhibitor meloxicam on canine osteosarcoma cells. „Res. Vet. Sci.”, 2006, 80(3), 308-316.

Summary

Jonkisz P., Kuziemska A., Kurosad A., Glińska-Suchocka K.

Department of Internal Diseases with Clinic for Horses, Dogs and Cats, Faculty of Veterinary Medicine, Wrocław University of Environmental and Life Sciences, Poland

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The article presents the diagnosis and treatment of TCC in 7,5 years old female dog.

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