URINARY BLADDER LEIOMYOMA IN A BITCH (*Canis lupus familiaris*): CASE REPORT.

LEIOMIOMA EM BEXIGA DE CADELA (Canis lupus familiaris)*:*
RELATO DE CASO.

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SUMMARY

Bladder leiomyomas are benign neoplasms arising from smooth muscles and rarely diagnosed in domestic dogs. The affected animals may show signs of urinary dysfunction (dysuria, incontinence, haematuria) and abdominal distension. Diagnosis depends on imaging and is confirmed by histopathology. Laparotomy allows biopsy and tumor resection. The purpose of this study is to describe the clinical and surgical conditions of a white-coat Poodle, 13 years of age, body mass of 5.5 kg, affected by a bladder leiomyoma measuring 12.8 x 9.3 cm that showed abdominal distension as the only clinical sign. Surgical treatment cured the patient and it is the first report of leiomyoma of urinary bladder in dogs in Brazil.

KEY-WORDS: Leiomyoma. Urinary bladder. Bitch.

RESUMO

Leiomiomas de bexiga são neoplasias benignas provenientes da musculatura lisa e raramente diagnosticadas nos cães domésticos. Os animais acometidos podem manifestar sinais de disfunção urinária (disúria, incontinência, hematúria) e distensão abdominal. O diagnóstico depende de exames de imagem e é confirmado por exame histopatológico. A laparotomia permite realização de biópsia e a ressecção tumoral. A proposta deste estudo é descrever a condição clínica-cirúrgica de uma cadela, raça Poodle, pelagem branca, 13 anos de idade, massa corporal de 5,5 kg acometida por leiomioma de bexiga medindo 12,8 x 9,3 cm e que exibia distensão abdominal como único sinal clínico. O tratamento cirúrgico permitiu a cura da paciente e este trata-se do primeiro relato de leiomioma de bexiga em cães no Brasil.

PALAVRAS-CHAVE: Leiomioma. Bexiga. Cadela.

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Bladder leiomyomas account for 0.5 to 1% of all neoplasia in dogs (PAMUCKU, 1974, MAXIE, 1993, CARLTON, 1999) and about 97% are malignant and typically of epithelial origin (NORRIS et al., 1992). Benign smooth muscle tumors (leiomyomas) are rare in dogs. Reports in the literature indicate the incidence of leiomyomas in only 1.7% (*n = 115*) (NORRIS et al., 1992), 4.2% (*n = 70*) (BURNIE & WEAVER, 1983) and 4.8% (*n = 21*) (STRAFUSS & DEAN, 1975) of dogs affected by bladder neoplasia. Bladder leiomyomas have also been reported in cats (OSBORNE et al., 1968, SCHWARZ et al., 1985), goats (TIMURKAAN et al., 2001) and humans (GOLUBOFF, 1994).

Leiomyomas and leiomyosarcoma arise from the muscular layer of the urinary bladder or from a growth of undifferentiated mesenchymal tissue that differentiate into smooth muscle. Histologically, leiomyomas can be distinguished from leiomyosarcoma by the lack of pleomorphism, low cellularity and the absence of giant tumor cells and atypical mitotic figures (PAMUCKU, 1974). They appear as large, whitish spherical tumors or as multiple nodules, well defined and with great affinity with the bladder neck, where it interferes with the urinary flow (MAXIE, 1993, CARLTON, 1999).

The average age at which bladder leiomyomas are diagnosed in dogs is between 7.6 (BURNIE & WEAVER, 1983) and 12.5 years of age (OSBORNE et al., 1968). They have been reported in mongrels and in Jack Roussel Terrier, Foxhound, Pekingese and Labrador Retriever breeds manifesting clinical signs of urinary incontinence, dysuria and fecal tenesmus (BURNIE & WEAVER, 1983).

The diagnosis is reached by careful analysis of the results from clinical evaluation, imaging methods (ultrasound, contrast radiography) and histopathology of specimens obtained by cystoscopy or laparotomy (GIEG et al., 2006). In one report, ultrasound of three cases of smooth muscle tumors showed intraluminal masses, solitary and rounded, with mixed echogenicity without displaying blood flow in the evaluation with color Doppler (HENG et al., 2006).

The purpose of this study is to describe the clinical-surgical condition of a white Poodle, aged 13 years, body weight 5.5 kg affected by a bladder leiomyoma. During the preliminary interview, the owner reported the onset of abdominal distention few weeks earlier, but did not report urinary incontinence, dysuria, haematuria or tenesmus. Clinical inspection confirmed clinical abdominal distension and during palpation a large tumor occupying predominantly the right caudolateral region of the abdomen was found. Auscultation showed holosystolic heart murmur grade IV/VI in the mitral valve and heart rate of 125 bpm. Subsequently, an abdominal ultrasound confirmed the existence of a tumor mass with mixed echotexture, measuring about 12 cm in the longest axis, but with no clear indication of both organ of origin and tumor boundaries.

Given the clinical ultrasound results, exploratory laparotomy was indicated. Preoperative evaluation consisted of an electrocardiogram, which showed respiratory sinus arrhythmia and suggested increased left atrioventricular opening; chest radiography in lateral and dorsal-ventral projections, confirmed the increased left atrioventricular opening consistent with myxomatous mitral valve; and blood tests (total blood count, ALT, alkaline phosphatase, urea, creatinine and glucose) that were within reference values.

The patient was pre-medicated with intramuscular acepromazine (0.05 mg/kg) combined with morphine (0.5 mg/kg), followed 15 minutes later by intravenous induction with propofol (2.5 mg/kg), tracheal intubation and maintenance of anesthesia with sevoflurane.

After abdominal scrubbing, a retro-umbilical incision was made on the skin and linea alba, exposing the cavity of the patient. During surgery, it was observed a large oval growth (12.8 x 9.3 cm) that extended from the right lateral intraluminal bladder to the caudal pole of the ipsilateral kidney and made difficult the visualization of the other viscera. The right ureter was observed to be ventrally adhered to the mass. It was also observed another growth with whitish multinodular surface, measuring 3.5 x 2.8 cm, adhered to the ventral surface of the uterine body (Figure 1).

The bladder tumor was removed by carefully dissecting the mass and isolating it from the ureter. To remove the mass completely, it was necessary to perform partial cystectomy , followed by cystorrhaphy using polyglactin in simple separated sutures and omentopexy on the suture line. Subsequently, ovary-salpingo-hysterectomy was performed following routine procedure, the abdomen was closed using polyglactin in simple separated sutures. The dermal suture was performed with simple continuous stitches using mono-filament nylon.

The patient remained 24 hours hospitalized. Anesthetic recovery was satisfactory and normuria was displayed within the first hours after surgery. The postoperative treatment prescribed was enrofloxacin (5 mg/kg, every 12 hours for 10 days), meloxicam (0.1 mg/kg, every 24 hours for 7 days), dipyrone (25 mg/kg, every 24 hours for 3 days) and instructions were given for the wound care at home. The healing and scarring was adequate and the stitches were removed 10 days after surgery.

Histopathology showed that both tumors, the primary bladder leiomyoma and the smaller one found in the body of the uterus, were benign (Figure 2). Two years after the surgery, the dog is in good clinical condition, without signs of urinary complications or recurrence, and is receiving treatment only for the mitral endocardiosis with enalapril (0.5 mg/kg, every 12 hours) and furosemide (2 mg/kg, every 24 hours).

The surgery was considered successful because it allowed the complete resection of the tumor, while it preserved the functionality of the urinary tract and improved the quality of the patient's life. The relevance of this report may be acknowledged in two major aspects: the first is the lack of reports of bladder leiomyoma in dogs in the Brazilian scientific literature. Reports found in the literature showed that this neoplasia is rare (STRAFUSS & DEAN, 1975, BURNIE & WEAVER, 1983, NORRIS et al., 1992).

Soon after the surgery, the prognosis for the patient was unfavorable due to the large size of the leiomyoma and to the fact that the large majority (about 97%) of bladder tumors are epithelial and malignant (NORRIS et al., 1992).

The second relevant finding is that a bladder tumor measuring 12.8 cm in the large axis in 5.5 kg dog did not show any clinical signs of urinary dysfunction such as, dysuria, haematuria or urinary incontinence, as it would be expected according to scientific reports about the same type of neoplasm (BURNIE & WEAVER, 1983). The only change presented by the patient was abdominal distention.

Possibly the prevalence of bladder leiomyomas in dogs is greater than that reported in the literature; however, in smaller sizes than what has been described here and therefore remain asymptomatic throughout the animal life. The benign character of this type of neoplasia also reinforces this probability.

Finally, this case report also supports the point-of-view in favor of surgical intervention and histopathological evaluation of the neoplasia, even if the aspect and the localization of the tumor growth has an unfavorable prognosis initially.

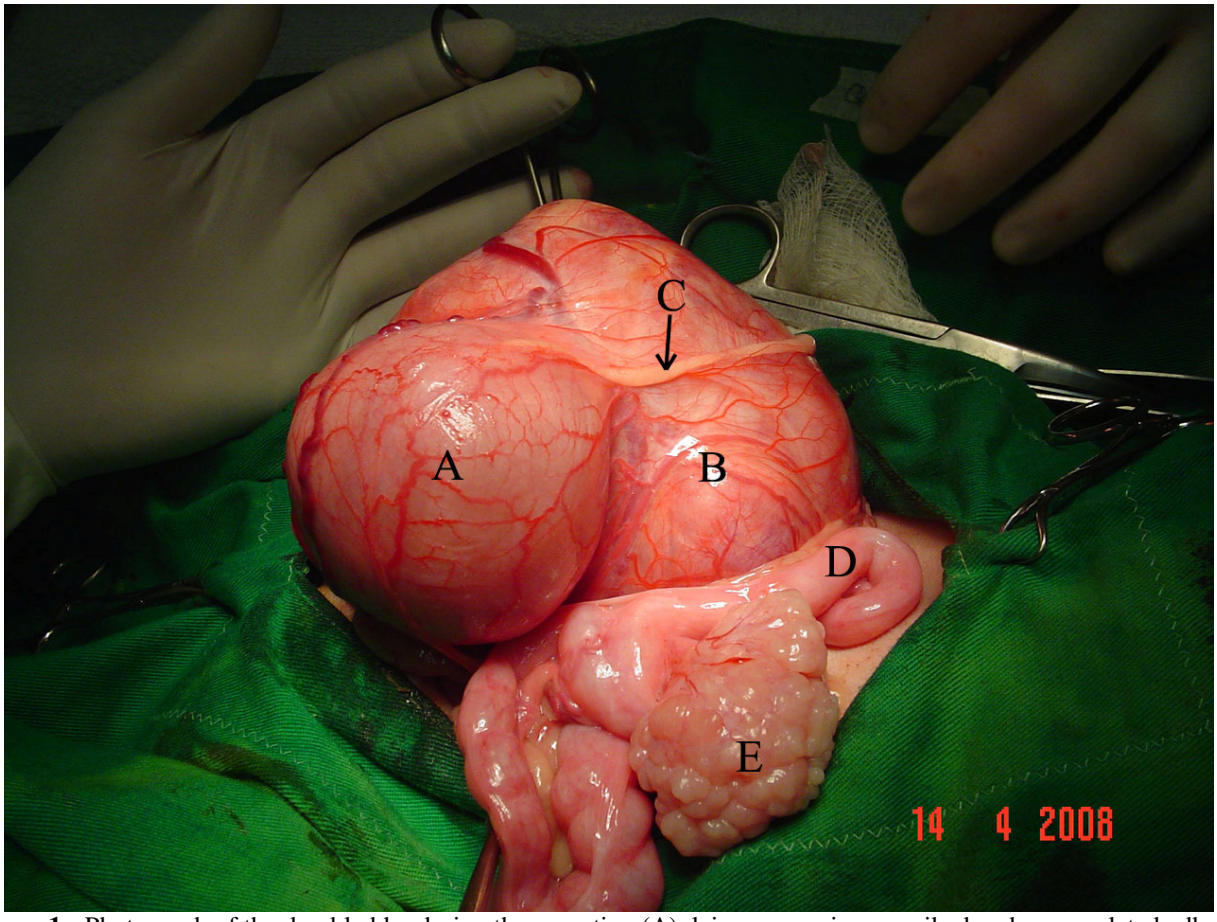

Figure 1 - Photograph of the dog bladder during the operation (A), leiomyoma circumscribed and encapsulated adhered to the bladder (B), right ureter d (C), right uterine horn (D) and multinodular leiomyoma adhered to the uterus (E).

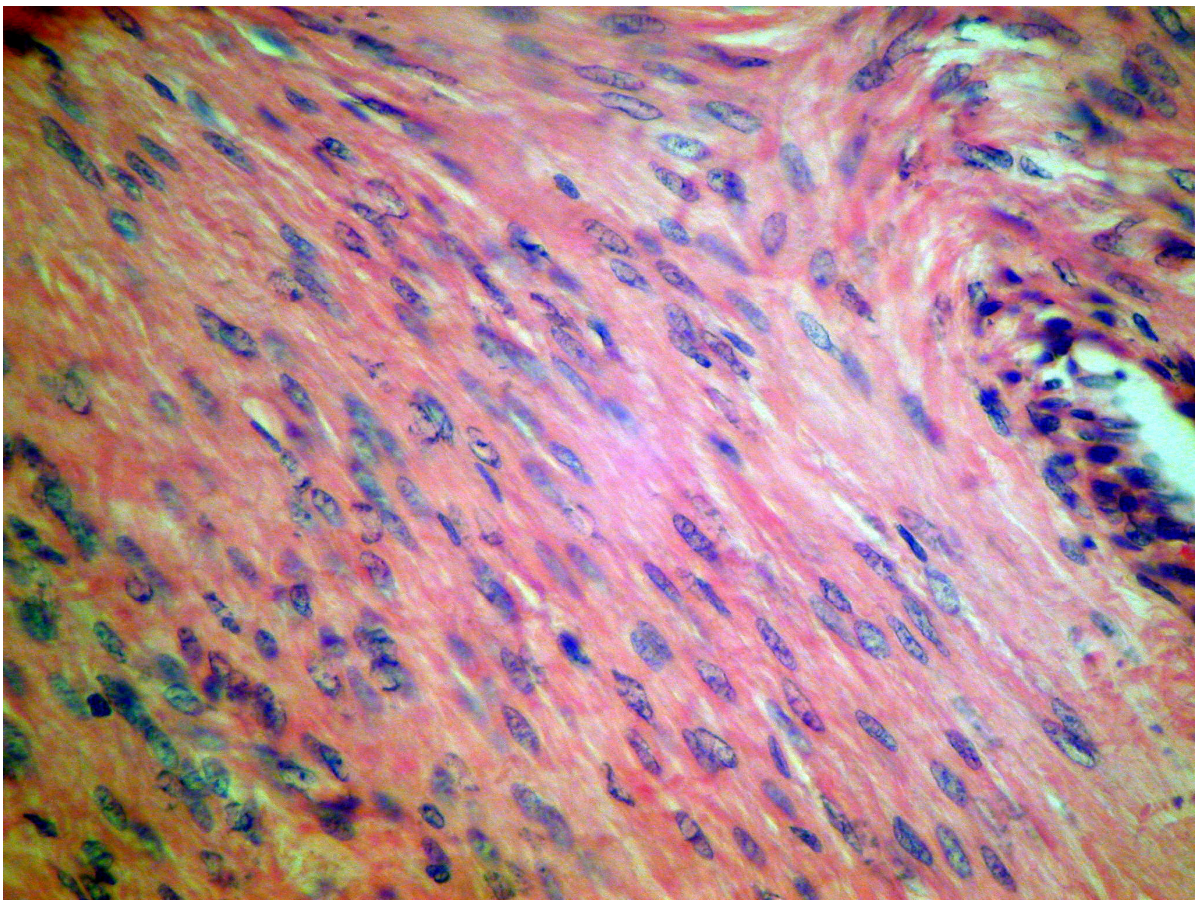

Figure 2 - Histological section of the bladder leiomyoma, characterized by the proliferation of spindle-shaped mesenchymal cells with eosinophilic cytoplasm and elongated nuclei with tapered edges. HE, 400 x.

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