CASE REPORT

Leiomyoma of the Urinary Bladder

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Leiomyoma of the urinary bladder is a rarity but should be considered in the differential diagnosis of an intramural neoplasm. We report a case illustrating clinical and pathological features in particular the immunohistochemistry. Etiology and differential diagnosis are discussed. (Pathology Oncology Research Vol 4, No 4, 308–309, 1998)

Key words: bladder, leiomyoma

Introduction

Benign tumors of mesenchymal origin in the urinary bladder are uncommon representing only 1–5% of all the neoplasms. They include leiomyoma, granular cell myoblastoma, hemangioma, lymphangioma, giant cell tumor, paraganglioma, and neurofibroma.[1] Leiomyoma is the most frequent and occurs mainly in young and adult females. The patients present with unspecific urinary symptomatology or pelvic pain.[7] We present a case of benign bladder leiomyoma with typical clinical and pathological features and discuss its possible etiopathology.

Case Report

A 50 old female was referred to our hospital for an asymptomatic mass discovered during gynecological examination of a myomatous uterus. Few years ago, she had a malignant melanoma removed in the skin of the neck without evidence of neither recurrence nor metastasis. On bimanual vaginal examination a round mobile firmish mass measuring 4 cm in diameter was palpated in the left side of the pelvis. The physical examination, except for an enlarged uterus, as well and laboratory data were normal. Abdominal ultrasonography and computerized tomography confirmed the presence of a mass in the left side of the bladder wall without evidence to extravesical extension *(Figure 1)*. At cystoscopy, the tumor was seen protruding into the lumen, covered with an intact congested mucosa. A transurethral excision was performed and the postoperative course was uneventful. Two years after surgery the patient is well and free of disease.

Pathology

The specimen consisted of 20 g grayish, firm tissue fragments. They were fixed in formalin, paraffin embedded, and 5 μm-thick cut and stained with hematoxylin and eosin. Immunostains were performed using the avidinbiotin-peroxidase complex method with desmin, vimentin, actin-smooth-muscle, pan cytokeratin, S-100, leucocytic common antigen, and neuron specific enolase.

Histology: Microscopically, all the fragments showed the same picture *(Figure 2)* composed of spindle cells and fibers arranged in fascicles separated by scant hyaline stroma. The nuclei of the cells were cigar-shaped and centrally located. There was no evidence of atypia, necrosis or mitosis. In a few fragments an intact urothelial mucosa with lamina propria was seen. The spindle cells demonstrated a smooth-muscle differentiation by positive staining with desmin and actin. The epithelial and neural markers were negative confirming the diagnosis of leiomyoma.

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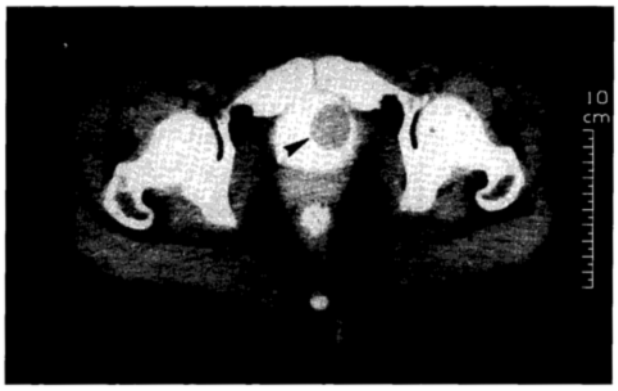


Figure 1. Abdominal ultrasound showing a round solid lesion on the left bladder wall.

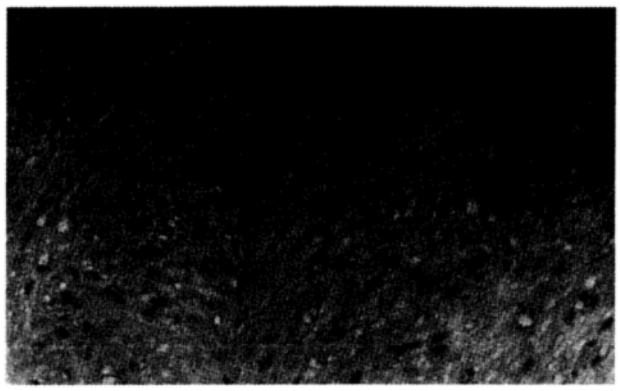


Figure 2. Smooth muscle tumor without pleomorphism or mitotic figures. (HE)

Discussion

Leiomyoma of the bladder is a rare tumor represening a third of all benign mesenchymal neoplasms in this organ. Approximately 200 cases have been reported occurring more in females (3 times more than in males) and in the 3rd and 4th decades.[2] The clinical presentation relates mostly to out-flow obstruction and irritative symptomatology. Hematuria has been reported as well as a case of renal failure. It is rarely asymptomatic,[2,3] as in our patient. Most of the tumors were located in the submucosa. Few were in the muscularis propria or extended outside the wall or were multifocal.[5] One leiomyoma was discovered during pregnancy.[8] They are well-circumscribed grayish firm nodules with a whorly appearance.[4]

The etiology of the urinary bladder leiomyoma is still obscure. Several hypothesis have been proposed such as a hormonal-related lesion, embryonic rests' tumor, post-inflammatory myomatous metaplasia, localized infection and "wandering" fibroid resembling a parasitic uterine leiomyoma. The female predominance at a reproductive age suggests hormonal influence more than the other possibilities.

Differential diagnosis prior and after intervention is essential between benign and malignant tumor when the neoplasm is poorly defined or extends beyond the wall of the bladder. Sections of the entire lesion with pushing and well-defined borders and the lack of atypia, nuclear pleomorphism, mitosis and necrosis rule-out the rare diagnosis of atypical cellular leiomyoma, or leiomyosarcoma. The later is more frequent than leiomyoma in the wall or submucosa of the urinary bladder. Inflammatory pseudotumor and postoperative stromal tumor can be difficult to diagnose preoperatively. Because most tumors are well-encapsulated, total enucleation by transurethral resection is the treatment of choice.[1] The follow-up of the cases published in the literature has shown no evidence of recurrence up to 20 years after surgery or malignant transformation.

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