



Leiomyoma of the Bladder in a 23-year-old Male: Case Report

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Abstract

Leiomyoma is a rare mesenchymal tumor that can occur in patients of any age. In the genitourinary system the tumor arises most frequently in the uterus, but can occur in any region. The tumor is seen more frequently in women than in men, and can be symptomatic or asymptomatic. Here we present a 23-year-old man who had symptomatic leiomyoma of the bladder.

Keywords: Leiomyoma, bladder, cystectomy, therapy, surgery

(Rec.Date: Sep 08, 2015

Accept Date: Sep 29)

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Introduction

Leiomyoma is a rare benign tumor that is seen more often in women than in men [1]. Here we report a 23-year-old man who presented with urinary frequency, urgency and nocturia. With computerized tomography and cystoscopy, the patient was diagnosed with leiomyoma of the bladder. He underwent partial cystectomy with complete excision of the tumor, and during two years of follow-up he has had no further symptoms.

Case Report

A 23-year-old man presented at our clinic with a two-month history of frequency, urgency and nocturia. One month prior to this visit, he had been diagnosed with urinary tract infection and was treated with antibiotic therapy, but his urinary complaints persisted. During the present visit, no abnormalities were found on physical examination or in routine laboratory studies. Intravenous pyelography showed a mass impinging on the left side of the bladder. Pelvic ultrasonography and computerized tomography (CT) were ordered. CT revealed a solid, smooth-bordered mass measuring 3×2.5 cm that appeared to arise from the bladder wall and extended into the bladder interior (Figure 1). On subsequent cystoscopy, the bladder mucosa appeared normal but distortion was seen in the bladder wall posteriorly on the left.

With these findings, exploratory open surgery was decided upon. During surgery, a smooth-bordered mass measuring 3.5×3.5 cm was found in the left posterolateral bladder wall, and the mass appeared to arise from the wall itself. Frozen section showed no malignancy and was consistent with leiomyoma. The mass was excised via partial cystectomy (Figure 2). Pathology results were consistent with leiomyoma (Figure 3). At six months after surgery, ultrasound revealed no recurrence of the tumor, and during two years of follow-up the patient has had no further symptoms.



Figure 1. Computerized tomography revealed a solid, smooth-bordered mass measuring 3 x 2.5 cm that appeared to arise from the bladder wall and extended into the bladder interior.



Figure 2. The tumor was excised and was 3.5 x 3.5 cm in size (the plastic adaptors on the needles in the photograph are 1.5 cm long).

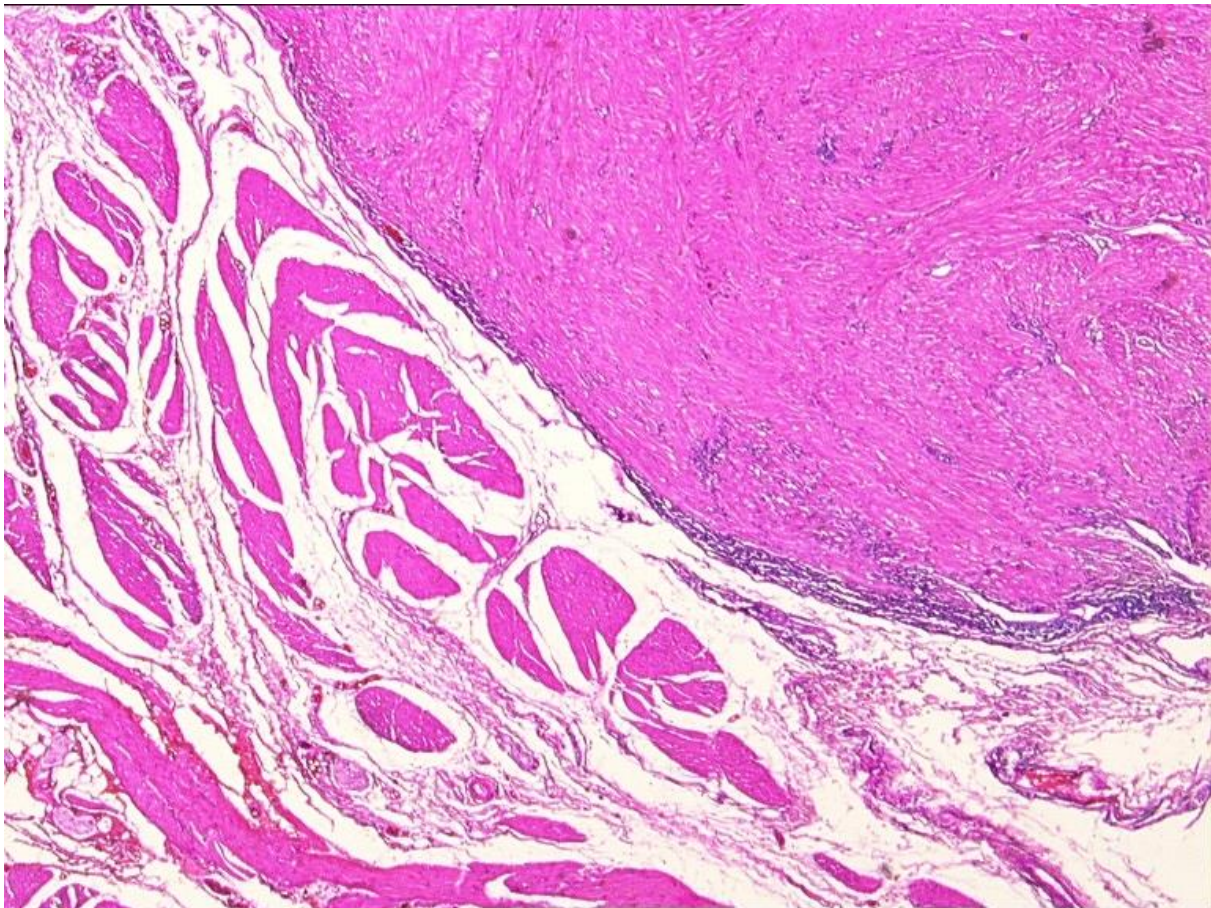


Figure 3. This hematoxylin-eosin preparation (100x) shows smooth muscle and tumor

Discussion

Mesenchymal tumors comprise 1-5% of all bladder tumors [1,2]. Leiomyoma, a benign mesenchymal tumor, accounts for less than 0.043% of all bladder tumors [3]. Leiomyoma in the urinary system can arise anywhere smooth muscle is present, and resembles uterine leiomyoma in its characteristics. The etiology of bladder leiomyoma is not definitely known; however, endocrine factors, metaplasia of embryonic remnants, metaplasia due to perivascular inflammation in the bladder, and inflammatory effects of infection on bladder muscle have been implicated [4,5]. By location in the bladder, 63-86% of reported leiomyomas have been endovesical, 11-30% extravesical, and 3-7% intramural [3,6]. Leiomyoma of the bladder can be seen in patients of any age, and is seen more frequently in women [6,7]. Symptoms depend on the tumor's size and location in the bladder. Patients may be asymptomatic or may have

symptoms of urinary obstruction, irritation, hematuria or rarely, obstructive renal insufficiency. Bladder leiomyomas reported in the literature have ranged in weight from a few grams to nine kilograms and in size from a few millimeters to 30 cm [8,9]. In the diagnosis, intravenous pyelography, ultrasonography, CT and magnetic resonance imaging can be used. Before surgery, the tumor's location and relation to ureteral orifices should be evaluated radiologically and with cystoscopy.

The prognosis of leiomyoma of the bladder is excellent. Malignant transformation has not been reported. Treatment for leiomyoma of the bladder is excision, and this can be performed transurethrally or with laparoscopic or open surgery [10].

Acknowledgements

We would like to thank our patient for consenting to report the case.

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