

Transurethral Resection of a Large Urinary Bladder Leiomyoma: A Rare Case Report

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Bladder leiomyoma constitutes less than 0.5% of all bladder tumors. Until now, there have been about 250 case reports of bladder leiomyoma. We present a case of large bladder leiomyoma, that was treated successfully with transurethral resection. The patient presented to our clinic with both obstructive and irritative urinary complaints. Cystoscopy showed a mass lesion completely obstructing the bladder neck at the junction of right lateral wall and floor, which did not extend to ureteral orifices. A transurethral resection was performed at the same session of cystoscopy. At the postoperative 3rd month control visit, the patient's obstructive symptoms were completely healed but her irritative symptoms continued. A repeat cystoscopy revealed residual tumoral tissue remaining at the floor of the previous surgical area. Transurethral resection was performed, and these tissues were completely resected. At the control visit that was 3 months after the second transurethral resection procedure, the patient was free from any urinary complaints. In conclusion, large bladder leiomyomas can be treated successfully with endoscopic approaches.

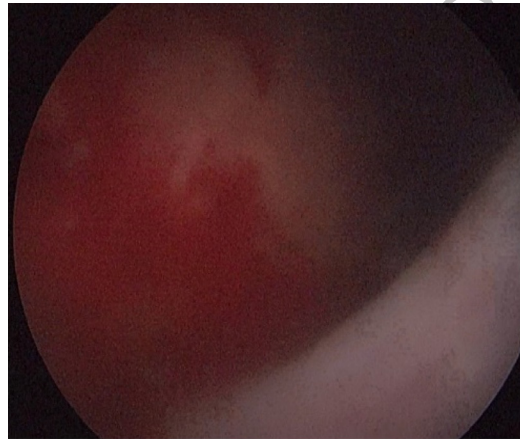


Figure 1. Cystoscopy image of the tumor from bladder neck.

INTRODUCTION

Bladder's benign mesenchymal tumors are quite rare, and constitute 1-5% of all bladder tumors.^(1,2) Benign tumors that form in the bladder are myoma, leiomyoma, rhabdomyoma, fibroma, angioma, osteoma and myxoma.⁽³⁾ Bladder leiomyoma is the most frequently observed benign mesenchymal tumor of the bladder, constituting 35% within this group. Therefore, bladder leiomyoma constitutes less than 0.5% of all bladder tumors.^(4,5) Until now, there have been about 250 case reports of bladder leiomyoma.

Based on its localization, bladder leiomyoma can be endovesical (63%), extravesical (30%), or intramural (7%).^(6,7) Complaints from patients with bladder leiomyoma may consist of obstructive symptoms, irritative symptoms, and gross hematuria. Sometimes, however, patients may be asymptomatic.⁽⁷⁾ Since the endovesical form is more symptomatic compared to forms at other localizations, it is usually diagnosed at an earlier stage.⁽⁵⁾ Since the disease is rarely encountered, we wished to present the findings of a case with bladder leiomyoma diagnosed at the Urology Department of Adiyaman University.

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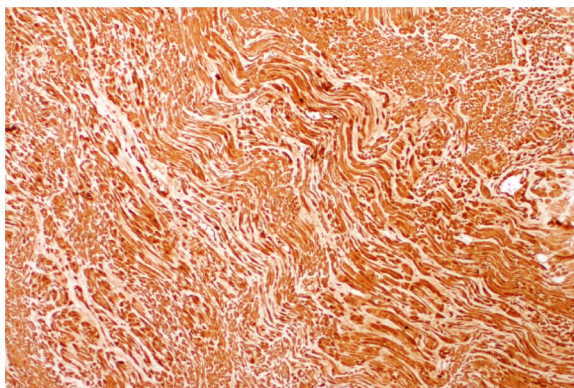


Figure 2. Muscle fibers appearing positively stained for X100 SMA

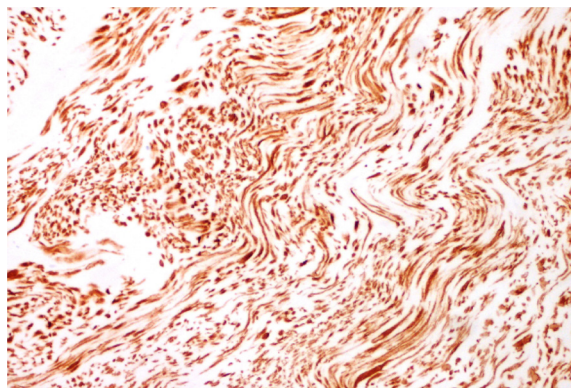


Figure 3. Positive staining for X200 desmin

CASE REPORT

A forty-six year old female patient presented to our clinic with both obstructive and irritative urinary complaints. Her laboratory workup and abdominal physical examination was normal, bimanual vaginal examination indicated a solid mass near the bladder neck. She did not have any comorbidity. Transvaginal ultrasonographic examination revealed a 9x6 cm tumoral lesion localized to the junction of right lateral wall and floor of the bladder. Renal ultrasonography showed that the kidneys were bilaterally normal. Cystoscopy showed a mass lesion completely obstructing the bladder neck at the junction of right lateral wall and floor, which did not extend to ureteral orifices (**Figure 1**). The epithelial lining of the bladder covering the mass lesion appeared normal. Upon the patient's consent, bipolar energy was used for transurethral resection of bladder tumor (TURBT) at the same session with cystoscopy. There was no significant bleeding during the TURBT so the lesion was completely resected as far as can be seen. On the postoperative 2nd day, the urethral catheter was removed and the patient was discharged without any problems. In histopathological examination of the specimen that was obtained with TURBT, staining for alpha-smooth muscle antigen (SMA) and desmin were positive (**Figures 2 and 3**). There was no staining for PanCK at the tumoral area, but the surface epithelium stained positive. In addition, hematoxylin-eosin section showed a normal transitional epithelium, while the muscle fibers were in continuity with lamina propria under epithelial invaginations. These findings were consistent with leiomyoma.

At the postoperative 3rd month control visit, the patient's obstructive symptoms were completely healed but her irritative symptoms continued. A repeat cystoscopy revealed residual tumoral tissue remaining at the floor of the previous surgical area. TURBT was performed, and these tissues were completely resected. At the control visit that was 3 months after the second TURBT procedure, the patient was free from any urinary complaints.

DISCUSSION

Benign mesenchymal tumors constitute a very small group within all bladder tumors. Leiomyoma is the most frequently encountered type among benign mes-

enchymal tumors of bladder. The size of a leiomyoma can range from a few millimeters to 30 cm.^(8,9) Goluboff et al.⁽⁷⁾ reviewed 37 reported cases of leiomyoma and found that these patients most commonly presented with obstructive urinary symptoms (49%), irritative symptoms (38%), hematuria (11%), or flank pain (13%); while 19 percent were asymptomatic. In that series, most patients were treated with open resection (62%), whereas 30 percent were treated with transurethral resection.⁽⁷⁾ Among those 37 patients, 76% were female and their age ranged between third and sixth decades. On the other hand, there are studies reporting equal distribution of gender among cases with bladder leiomyoma.^(10,11)

The exact cause of bladder leiomyoma is unclear. There are 4 factors held responsible in its etiology including hormonal disturbances, dysontogenesis, perivascular inflammation, and infection at the bladder's muscle layer.^(4,12)

Imaging techniques that can be used for diagnosing bladder leiomyoma include transabdominal ultrasonography, transvaginal ultrasonography, computed tomography, and magnetic resonance imaging. Some authors claim ultrasonography is a superior technique compared to other methods for imaging bladder leiomyoma, because it is better at revealing tumor's localization and its relation with neighboring organs.^(13,14)

Treatment of bladder leiomyoma is surgical resection. While TURBT is generally preferred for small-sized tumors with endovesical localization, partial cystectomy and segmental resection are preferred for larger tumors. Asymptomatic patients can be followed without surgery since there is no evidence that bladder leiomyoma can undergo malignant transformation.^(8,9,15)

Here, we presented a case with large bladder leiomyoma, a rarely encountered disease that was treated successfully with TURBT. Based on the experience of this case, we think, endoscopic resection of bladder leiomyoma cause less bleeding than the endoscopic resection of other bladder tumor forms, and so the TURBT can be a good option for surgical resection of the bladder leiomyoma even in large tumors with endovesical localization.

CONFLICT OF INTEREST

The author report no conflict of interest.

REFERENCES

1. Campbell EW, Gislason GJ. Benign mesothelial tumors of the urinary bladder: review of literature and a report of a case of leiomyoma. *J. Urol.* 1953;70:733–742.
2. Melicow MM. Tumors of the urinary bladder. *J. Urol.* 1937;37:117.
3. Goktug HG, Ozturk U, Sener NC, Tuygun C, Bakirtas H, Imamoglu AM. Transurethral resection of a bladder leiomyoma: A case report. *Can Urol Assoc J* 2014; 8: 111-113
4. Nazih K, Ghazi S. Bladder leiomyoma: Presentation, evaluation and treatment. *Arab Journal of Urology* 2013; 11:54-61
5. Cornella JL, Larson TR, Lee RA, Magrina JF, Kammerer-Doak D. Leiomyoma of the female urethra and bladder: report of twenty-three patients and review of the literature. *Am. J. Obstet. Gynecol.* 1997;176:1278–1285.
6. Knoll LD, Segura JW, Scheilhauer BW. Leiomyoma of the bladder. *J. Urol.* 1986;136:906–913.
7. Goluboff ET, O'Toole K, Sawczuk IS. Leiomyoma of bladder: report of case and review of literature. *Urology.* 1994;43:238–241.
8. Kim IY, Sadeghi F, Slawin KM. Dyspareunia: An unusual presentation of leiomyoma of the bladder. *Rev Urol.* 2001;3:152–4.
9. Broessner C, Klingler CH, Bayer G, Pycha A, Kuber W. A 3,500-gram leiomyoma of the bladder: case report on a 3-year follow-up after surgical enucleation. *Urol Int.* 1998;61:175–7.
10. Mutchler RW, Gorder JL. Leiomyoma of the bladder in a child. *Br. J. Radiol.* 1972;45:538–540.
11. Katz RB, Waldbaum RS. Benign mesothelial tumors of the bladder. *Urology.* 1975;5:236–238.
12. Teran AZ, Gambrell RD. Leiomyoma of the bladder. *Int. J. Fertil.* 1989;34:289–292.
13. Fernandez A, Dehesa TM. Leiomyoma of the urinary bladder floor: diagnosis by transvaginal ultrasound. *Urol. Int.* 1992;48:99.
14. Illescas FF, Baker ME, Weinerth JL. Bladder leiomyoma. Advantages of sonography over computed tomography. *Urol. Radiol.* 1986;8:216–218.
15. Bai SW, Jung HJ, Jeon MJ, Jung da J, Kim SK, Kim JW. Leiomyomas of the female urethra and bladder: a report of five cases and review of the literature. *Int Urogynecol J Pelvic Floor Dysfunct.* 2007;18:913–7