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Bladder Leiomyoma : Two Case Reports and Literature Review

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1. Abstract

1.1. Objective: To summarize the clinical symptoms, examination results, surgical methods and prognosis of bladder leiomyoma in recent 3 years, and to compare with the report of bladder leiomyoma 5 years ago.

1.2. Materials: We reported 2 cases of bladder leiomyoma in the Department of Urology, Sino Japanese Friendship Hospital in the past 10 years. A 34-year-old woman presented with a bladder mass on routine examination without any related symptoms. A 77-year-old man complained of irritative urinary symptoms for three years. We described their examination results, surgical methods, postoperative pathology and prognosis. In addition, we summarize the case reports and literatures on bladder leiomyoma published from 2018 to 2020.

1.3. Results: The female patient with bladder leiomyoma in our center had no recurrence after open surgery. The male patient had no recurrence after TURBT. The literature in the last three years shows that the youngest patient is 6 years old and the oldest patient is 77 years old. The proportion of laparoscopic surgery increased. There is a clear case report of robot assisted surgery.

1.4. Conclusion：Compared with the past five years, the age range of patients with urethral leiomyoma has changed. TURBT, laparoscopic partial cystectomy and open surgery are effective treatment for bladder leiomyoma.

2. Brief summary

We report two cases of bladder leiomyoma and collect the latest literature from 2018 to 2020 to summarize the symptoms and treatment measures.

3. Introduction

Bladder leiomyoma, a benign tumor of the urinary system originating from interstitial tissue, is very rare clinically and accounts for 0.43% of all bladder tumors [1]. In female patients, the common site adjacent to the cervix may be confused with the diagnosis of female reproductive system tumors. We report two unique cases of bladder leiomyoma, summarize the reported cases of bladder leiomyoma from 2018 to 2021 and compare them with those published from 2012 to 2017.

4. Case Report

A 34-year-old woman presented with a bladder mass on routine examination without any related symptoms. Her CT scan showed a mass in the left posterior wall of the bladder, about 7.3 cm× 6.7cm. (Figure 1) Motional enhancement: The mass was unevenly enhanced with a well-defined boundary and a broad base attached to the bladder wall. Solid echo masses were observed in the bladder with clear boundary and regular shape in ultrasound. Cystoscopy under local anesthesia showed that the bladder occupying was located on the left side wall of the bladder, and bilateral urethral orifice was clearly visible, about 0.5cm from the left orifice of the bladder occupying (Figure 2). The mass was spherical, about 6cm in size, and the bladder mucosa was complete on the surface. Subsequently, the bladder masses were punctured under the guidance of ultrasound under local anesthesia, and 3 grey-white punctured objects were collected. Postoperative pathological diagnosis was spindle cell tumor. Because the source of the tumor could not be identified, the gynecology department was invited for a consulta-

tion, and it was believed that the patient had a history of uterine fibroids. More than 2 years after multiple myoma removal, it was considered that the patient might be fibroids of broad ligament origin or recurrence of uterine fibroids. The patient was transferred to gynecology for further treatment. The department of gynaecology considered surgical resection, and combined with the urology department, the myomectomy of the posterior wall of the bladder was performed. Intraoperative solid mass was observed in the peritoneum of the left anterior uterus, extending to the round ligament at the lower end. The bottom of the bladder was cut open to expose the tumor. The examination revealed that the tumor was located under the mucosa of the left posterior wall of the bladder, near the mucosa in the muscular layer, and about 0.5cm near the tumor in the left ureteral opening. The tumor was completely removed by blunt separation. The tumor was about 8cm in diameter, soft and lobulated (Figure 3). The pathological diagnosis was leiomyoma of bladder.

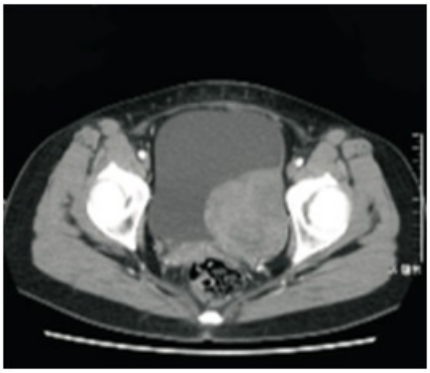

Figure 1: Pelvic CT: A well-defined mass was observed on the left posterior wall of the bladder, connected to the bladder wall with a broad base, about 7.3cm × 6.7cm in size, and the CT value was about 25-81HU.

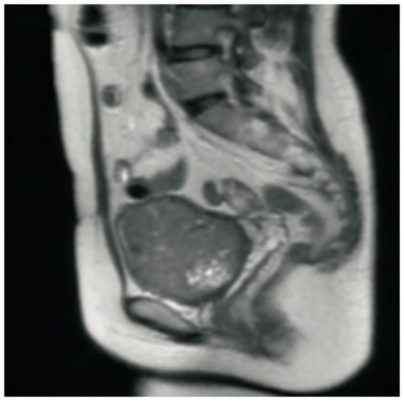

Figure 2: Pelvic MRI: Soft tissue mass in anterior subuterine view, uneven signal, unclear boundary of bladder compression, no enlarged lymph nodes in pelvic cavity, and no abnormality in pelvic wall structure.

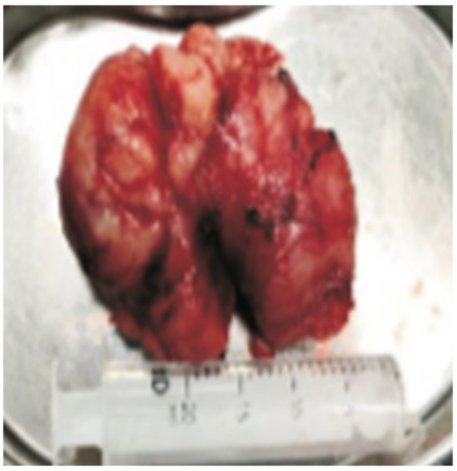

Figure 3: Postoperative gross specimen: a nodular specimen, about 8cm in diameter, bright red in color, with a smooth membrane on the surface.

A 77-year-old man complained of irritative urinary symptoms for three years. He denied any episodes of gross hematuria, fever or chills. No significant findings were detected on physical examination. Urinary tract infection was excluded as results of urinalysis and urine cytology were normal (Figure 4). The results of other laboratory tests including renal function, liver function, complete blood cell count, and coagulation function were also within the normal range. Ultrasonography demonstrated a 2.9 cm × 2.1cm mass in the posterior bladder wall (Figure 5). Pelvic CT results showed a 3.3cm× 2.7cm soft tissue lesion in the right posterior bladder wall. The CT also shows thickening of the urinary bladder wall without locoregional invasion. (Figure 6) Cystoscopy revealed a tumor protruding into the bladder about 4 cm behind the urethral crest. The margin of the tumor was 1.0 cm from the right ureteral orifice and 0.5 cm from the left ureteral orifice. The biopsies taken with a transurethral resection (TUR) loop showed a benign proliferation of smooth muscle in a connective tissue stroma suggestive of leiomyoma. After partial cystectomy, no recurrence or adverse complications were found in 24 months. The patient achieved a clinical recovery and experienced relief of painful urination. The patient provided verbal informed consent.

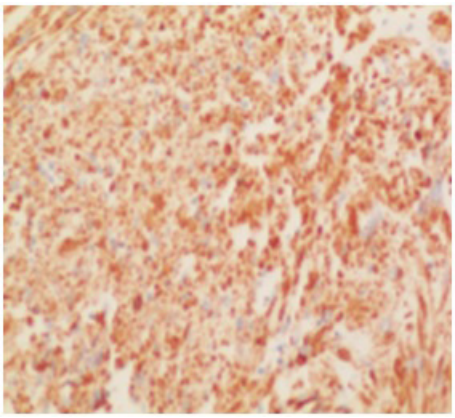

Figure 4: Postoperative specimen immunohistochemistry: Desmin(+) (×40).

Figure 5: Ultrasonography demonstrated a 2.9 cm × 2.1cm mass in the posterior bladder wall.

Figure 6: Pelvic CT: A well-defined mass was observed on the left posterior wall of the bladder, thickening of the urinary bladder wall without locoregional invasion.

5. Discussion

We report two rare cases of asymptomatic bladder leiomyoma. One case was a middle-aged woman who underwent open partial cystectomy to remove the tumor. The other case was an old man who underwent transurethral resection. Leiomyoma of the bladder is a benign tumor derived from the mesenchymal tissue of the bladder wall. It is rare in clinic, accounting for less than 0.5% of all bladder tumors.

To review the epidemiology, preventive measures, and therapy of bladder leiomyoma, we collected the latest related literature from 2018 to 2020. We searched PubMed with the following search terms [2]: bladder (all fields) or bladder (mesh term), and leiomyoma (all fields) or leiomyoma (mesh term). After careful filtration of duplicates and non-related results, data from 11 patients in 6 reports were collected and analysed (Table 1).

Liang He [2]. Reviewed the literature on bladder leiomyoma from 2012 to 2017. Similar to Liang He statistics, the incidence rate of female patients is still far higher than that of male patients. The difference is that the age range of reported cases has changed in the last three years. The youngest patient was a six-year-old boy [9]. The oldest case was a 77-year-old man. The treatment has also changed. Robot assisted surgery is clearly proposed [2-9]. Laparoscopic surgery has increased [2-9].

Table 1. Data from case reports of bladder leiomyomas in the most recent 3 years.

Author	Age	Sex	Treatment	Related antecedent diseases	Reference
Liang He	47	Female	Open Partial Cystectomy	asymptomatic	
O S Streltsova		Female		obstructive voiding	
Marcos Tobias-Machado	25	Male	Robot-assisted Transvesical Partial Cystectomy	urinary frequency and urgency	
Ciravolo G	42	Female	Laparoscopic management	urgency urinary incontinence and bulk symptoms.	
Axing Li	34	Female	Underwent Transurethral Enucleation	Asymptomatic	
Axing Li	55	Female	Underwent Transurethral Enucleation	Irritative	
Axing Li	54	Female	Underwent Transurethral Enucleation	Haematuria	
Axing Li	46	Female	Underwent Transurethral Enucleation	Irritative	
Axing Li	45	Female	Underwent Transurethral Enucleation	Asymptomatic	
Axing Li	67	Male	Underwent Transurethral Enucleation	Asymptomatic	
Suvradeep Mitra	6	Male	TURBT? Cystoscopy	pain in the lower abdomen, bleeding per urethra, occasional history of fever	
Sodo M	33	Male	a partial cystectomy using a laparoscopic approach	pelvic pain, urgency and dysuria	

6. Conclusion

In summary, we present two rare cases of symptomatic bladder leiomyoma and reviewed the latest literature of cases of bladder leiomyoma.

References

1. Gómez Vegas A, Silmi Moyano A, Fernández Lucas C, Blázquez Izquierdo J, Delgado Martín JA, Corral Rosillo J, et al. Leiomiomas de tracto urinario inferior [Leiomyoma of the lower urinary tract]. Arch Esp Urol. 1991; 44(7): 795-8.
2. He L, Li S, Zheng C, Wang C. Rare symptomatic bladder leiomyoma: case report and literature review. J Int Med Res. 2018; 46(4): 1678-1684.
3. Li A, Zhang P, Zhang M, Yang T, Yue Y, Chen G, et al. Transurethral Enucleation of Bladder Leiomyoma: A Series of Six Cases and Review of the Literature. Urol Int. 2019; 102(1): 102-108.
4. Streltsova OS, Kachalina OV, Yunusova KE, Molvi M, Kiseleva EB. Urethral leiomyoma. Urologiia. 2018; (1): 129-133.
5. Tobias-Machado M, Pazeto CL, Borges RC. Robot-assisted transvesical partial cystectomy for leiomyoma of bladder trigone. Int Braz J Urol. 2020; 46(2): 300.
6. Jamshaid A, Arshad Z, Zaidi SZ. Leiomyoma of the urinary bladder. J Pak Med Assoc. 2017; 67(9): 1447-1449.
7. Ciravolo G, Ferrari F, Zizioli V, Donarini P, Forte S, Sartori E, et al. Laparoscopic management of a large urethral leiomyoma. Int Urogynecol J. 2019; 30(7): 1211-1213.
8. Sodo M, Spirito L, La Rocca R, Bracale U, Imbimbo C. Partial cystectomy in young male for a urachal tumor masquerading a bladder leiomyoma. Arch Ital Urol Androl. 2019; 91(1): 51-52.
9. Mitra, Suvradeep MD, Joshi, Rashmi MBBS; Gupta, Kirti MD; et al, Not All Pediatric Bladder Masses are Rhabdomyosarcoma: Report of a Rare Case With Review of the Literature. Journal of Pediatric Hematology/Oncology: November. 2019.