International Surgery Journal
Permata VA et al. Int Surg J. 2025 May;12(5):789-792
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: https://dx.doi.org/10.18203/2349-2902.isj20251179

Case Report

Female paraurethral leiomyoma: a case report and literature review

Veryne Ayu Permata[1]*, Syaeful Agung Wibowo[2], Suharto Wijanarko[2], Nisa Anestesia Liana[3], Yudhistya Ngudi Insan[3], Darto[3], Asih Anggraeni[3]

[1]Department of Urology, Airlangga University, Surabaya, East Java, Indonesia
[2]Department of Urology, Dr. Moewardi Hospital, Surakarta, Central Java, Indonesia
[3]Department of Obstetrics and Gynecology, Dr. Moewardi Hospital, Surakarta, Central Java, Indonesia

Received: 01 March 2025
Revised: 08 April 2025
Accepted: 19 April 2025

***Correspondence:**
Dr. Veryne Ayu Permata,
E-mail: dr.veryneayu@gmail.com

ABSTRACT

Urethral myoma is an uncommon benign tumor of mesenchymal origin. Establishing the diagnosis can be challenging due to its similarity to other periurethral masses. We report a case of a 36-year-old multiparous woman (P4A0) presenting with a painless mass protruding from the distal vaginal wall, surpassing the vaginal introitus for the past two years. Physical examination revealed a round, solid mass measuring 9.4 x 4 x 4 cm emerging from the vagina. A trans perineal scan indicated a leiomyoma in the anterior vaginal area. The mass was successfully excised via a vaginal approach in collaboration with a urologist. A Foley catheter was placed preoperatively, and the patient showed favorable recovery three weeks post-surgery. Histopathological analysis confirmed the diagnosis of leiomyoma. Urethral myoma accounts for approximately 5% of leiomyoma cases. Preoperative imaging and thorough clinical examination are essential for diagnosis. The preferred treatment is complete surgical excision via the vaginal route, followed by histological evaluation. While laparoscopic management has been reported in isolated cases, local recurrence remains rare. Close postoperative monitoring can help detect potential recurrences at an early stage. This case highlights the rarity of urethral leiomyoma and its successful management through surgical intervention.

Keywords: Urethral myoma, Leiomyoma, Vaginal surgery, Periurethral mass

INTRODUCTION

Urethral leiomyomas are exceedingly uncommon.[1] Their clinical symptoms can vary greatly depending on their size and location. Particularly at the urethral level, which forms close to the vaginal wall, symptoms include dyspareunia, heaviness, foreign body sensation, recurrent UTIs, and urinary retention.[2,3] Authors report a successful surgical resection of a case of urethral leiomyomas that did not cause any damage the urinary tract and has yet to demonstrate signs of recurrence. Since it can resemble other periurethral masses including urethral diverticulum, Skene duct abscess, cystocele, and Gartner duct abscess; Determining the diagnosis might be difficult.[1,4] Here, we describe a patient who experience sensation of a bulging mass surrounding their vagina. The patient had a urethral leiomyoma.

CASE REPORT

A 36-years-old P4A0 woman was referred to our centre with a chief complaint of painless mass protruding from the distal wall of vagina, surpassing the vaginal introitus since it started two years ago. In addition to hematuria and urinary incontinence, the patient reported some discomfort. The patient did not, however, notice any lower abdominal pain, bleeding, itching, dysuria, or difficulties urinating. Although the entire vital sign is within normal limits, the BMI indicates that the patient is overweight. Upon physical examination, a round, solid

mass measuring 9.4×4×4 cm was observed emerging from the vagina. The mass's smooth surface was covered with mucosa. When touched, the mass is painless. The external urethral meatus is deviating to the upper right side of the mass as a result of the urethra being compressed.

Figure 1: Transperineal scan of the mass.

Figure 2: Physical findings showed a protruding mass coming out from the vagina introitus.

The vaginal wall appears smooth and free of any bleeding or discharge during the vaginal inspection. Abdominal and pelvic ultrasonography revealed a bladder with a typical size and shape. A 6×6×6 cm solid hypoechoic mass with an uneven surface was seen in the posterior uterine wall. A 16-fr silicone catheter was inserted into the constricted urethral aperture after the Urologist had located and examined the urethra. To separate the urethra from the mass, a U-shaped cut was made in the periurethral tissue, and the tissues surrounding the urethra were dissected. A urogynecologist then continued the procedure.

Following identification and examination, the urogynecologist discovered a solid mass surrounding the urethra that was 7 by 4 by 6 cm. Myomectomy was decided upon when urethral leiomyoma was diagnosed during the procedure. After the myoma was cut out and removed using a trimming technique to remove any remaining surrounding tissue, the mass was transferred to a histopathologist.

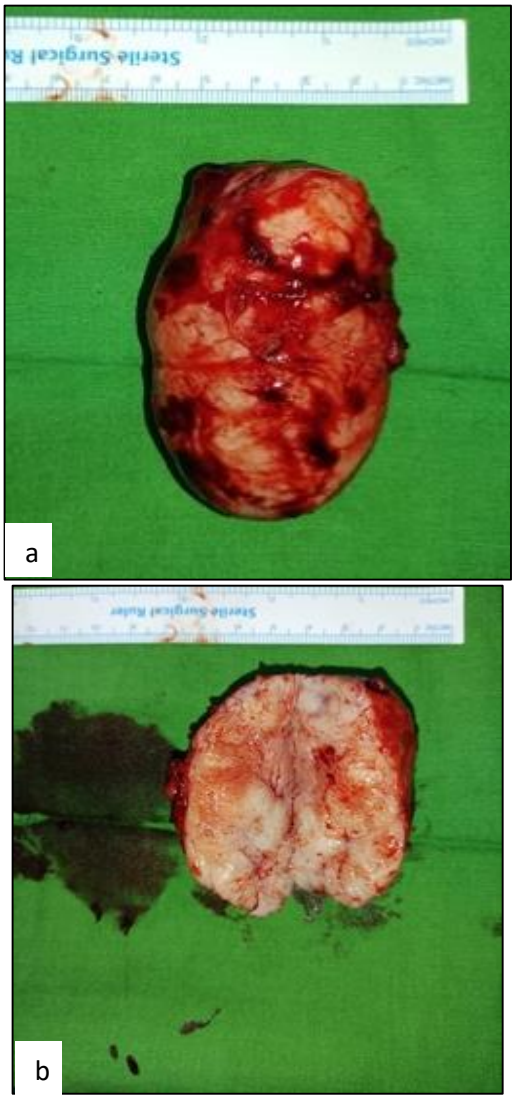

Figure 3 (a and b): Surgical specimen.

Simple interrupted stitches were used to suture the subcutis layer with PGA 2-0, and a continuous horizontal mattress with chromic 3-0 was used to close the vagina using chromic 3-0 to anchor the inter-labial sulci with a continuous suture. The mesenchymal tumour indicative of leiomyoma was verified by definitive histology results.

Post-operatively, the patient was closely monitored for signs of infection, bleeding, and proper urinary function. The catheter was removed after a short period, and the patient was advised to avoid strenuous activities and heavy lifting for several weeks to promote healing. A follow-up visit was scheduled in 4 weeks to assess the surgical site and evaluate the resolution of any symptoms, including urinary incontinence and hematuria. Further

follow-ups will be arranged at regular intervals for the next 6 months to ensure complete recovery and monitor for any recurrence of the leiomyoma.

Figure 4: Urethral opening post mass excision.

Figure 5: Post operative findings on follow-up.

DISCUSSION

Benign tumours called leiomyomas are derived from the genitourinary system's circular smooth muscle. The uterus is where leiomyomas are found in most cases. The appearance of leiomyoma at an unexpected site is a rare occurrence and is regarded as infrequent. Only a small number of extrauterine leiomyomas have been documented, including urethral leiomyomas, which originate from mesenchymal tissues' smooth muscle cells.[5] Urethral leiomyoma, accounting for 5% of periurethral masses in women, is one kind of leiomyoma beyond the uterus (LBU). There aren't many case studies that focus on treating women's periurethral masses, and as a result, it is difficult to evaluate and handle this issue because there aren't any established guidelines yet.[6] Through physical examination, urethral and periurethral leiomyomas can be distinguished. The majority of cases show no symptoms but some reported hematuria, vaginal edema, dysmenorrhea, dyspareunia, urgency urinary incontinence, and dysuria.[7-9] Tumour sizes range from 1 to 8 cm; a case study revealed a massive 12-cm-long urethral leiomyoma.[8] Other than a bothersome sensation around the vagina, the patient in this instance had no sympt b The mass measured 7 cm.

On physical examinations, urethral or periurethral leiomyoma usually presents as firm, non-tender, rounded, non-fluctuant appearance, smooth surface. Another common morphology of the tumour is pedunculated myoma. The diagnosis of urethral leiomyoma can be accurately made with 2D transvaginal or trans-perineal ultrasonography. In order to differentiate between cystic, cystic-solid, solid urethral, and solid periurethral masses, a study showed how effective 2D transvaginal and trans-perineal ultrasound is at detecting periurethral masses. Additionally, it makes it possible to see internal blood flow and pinpoint possible causes.[10]

Tumours can be identified with the help of imaging modalities like magnetic resonance imaging (MRI), particularly tiny leiomyomas. On T1 weighted sequence, leiomyoma typically exhibits homogeneous hypo intensity, in contrast, on T2 weighted sequence, the signal intensity varies. They can show homogeneous or increasing signal intensity on T2 as they get expand. While T2 scans show the body's water and fat tissue, T1 images focus on the body's fat tissue.[11] As suggested, take into account the local surgical removal; the patient's symptoms will determine the best method of approach. Selecting for total surgical excision can reduce the likelihood of relapses and alleviate symptoms. But the surgeon needs to practice carefully in order not to damage the urethra.[12]

Laparoscopy is safe and feasible; one example of a large urethral leiomyoma was successfully treated with this approach. The urethral leiomyoma, which was expanding into the vesicouterine space and vesicovaginal septum, was excised owing in a significant manner to the optical imaging feature and high-definition technology.[8] Following surgery, the patient was under control with satisfactory results after three weeks. A local transvaginal surgical technique proved effective in treating this patient. Before the incision took place, the Foley catheter was placed. Urologists made the initial incision and dissected the tissue surrounding the urethra. Before the procedure, a cystoscopy could help determine whether the mass is invasive.[13]

There have been two occurrences of recurring urethral leiomyoma, which is rare. As a result, careful monitoring is necessary to identify any recurrence and facilitate earlier management.[14,15]

CONCLUSION

This case highlights the effectiveness of the transvaginal surgical approach in the successful treatment of urethral leiomyoma, with complete excision of the mass. The preoperative diagnosis was established through a trans perineal scan and physical examination, allowing for precise surgical planning. Further research is needed to refine diagnostic methods and identify the most optimal surgical techniques, ensuring better outcomes for patients with this condition. This case report contributes valuable insight into the management of urethral leiomyoma, advancing knowledge in urogynecology and enhancing treatment protocols for similar cases in the future.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

REFERENCES

1. Popov S, Orlov I, Chernysheva D, Grin' E. Urethral leiomyoma: A rare neoplasm. Urol Ann. 2021;13(2):194-7.
2. Wu S, Min Z, Wu L, Zhang M, Wu L. A urethral leiomyoma presenting with dysuria: A rare case report. Medicine (United States). 2024;103(20):37893.
3. Barut A, Mohamud DO. Urethral leiomyoma: A rare cause of acute urinary retention. Int J Surg Case Rep. 2022;4:98
4. Beng Kwang N, Naidu A, Yahaya A, Pei Shan L. Urethral leiomyoma: a rare clinical entity. Case Rep Surg. 2016;2016:1-4.
5. Fasih N, Shambhogue A, Macdonald D. Leiomyomas beyond the uterus: unusual locatinos, rare, manifestations. Radio Graphics. 2008;28(7):1931-48.
6. Blaivas JG, Flisser AJ, Bleustein CB, Panagopoulos G. Periurethral masses: Etiology and diagnosis in a large series of women. Obstetr Gynecol. 2004;103(5):842-7.
7. Hwang JH, Lee JK, Oh MJ, Lee NW, Hur JY, Lee KW. A Leiomyoma Presenting as an Exophytic Periurethral Mass: A Case Report and Review of the Literature. J Minim Invasive Gynecol. 2009;16(4):507-9.
8. Ciravolo G, Ferrari F, Zizioli V, et al. Laparoscopic management of a large urethral leiomyoma. Int Urogynecol J. 2019;30(7):1211-3.
9. Perugia G, Ciccariello M, Pirolli F, et al. Paraurethral leiomyoma. Urol. 2012;79(4):51-2.
10. Yang H, Gu JJ, Jiang L, Wang J, Lin L, Wang XL. Ultrasonographic Imaging Features of Female Urethral and Peri-urethral Masses: A Retrospective Study of 95 Patients. Ultrasound Med Biol. 2020;46(8):1896-907.
11. Hubert KC, Remer EM, Rackley RR, Goldman HB. Clinical and magnetic resonance imaging characteristics of vaginal and paraurethral leiomyomas: Can they be diagnosed before surgery. BJU Int. 2010;105(12):1686-8.
12. Leung YL, Lee F, Tam PC. Leiomyoma of female urethra causing acute urinary retention and acute renal failure. J Urol. 1997;158(5):1911-2.
13. Kian MC, Chuang J, Tsai YL, Hwang JL. A rapidly growing paraurethral myoma with profuse bleeding from a mucosal vessel: Report of a case. Gynecol Obstet Invest. 2006;61(2):87-9.
14. Shen YH, Yang K. Recurrent huge leiomyoma of the urethra in a female patient: A case report. Oncol Lett. 2014;7(6):1933-5.
15. Jiménez NM, Ballesta MB, Rodríguez TJ, Amador RA. Recurrence of urethral leiomyoma: A case report. Urol Case Rep. 2019;3:25-6.

Cite this article as: Permata VA, Wibowo SA, Wijanarko S, Liana NA, Insan YN, Darto, Anggraeni A. Female paraurethral leiomyoma: a case report and literature review. Int Surg J 2025;12:789-92.