



## Case report

## Urethral leiomyoma: A rare cause of acute urinary retention

Adil Barut<sup>\*</sup>, Deka Omer Mohamud

Obstetrics and Gynecology Department, Somali-Mogadishu Recep Tayyip Erdoğan Research and Training Hospital, Mogadishu, Somalia

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## ABSTRACT

**Introduction and importance:** Leiomyoma is a benign smooth muscle tumor, which is the most common seen in the uterine and is rarely found in the urethra. These are benign mesenchymal tumors that arise from the smooth muscle, which appear during the reproductive age of a female. Diagnosis and management of this case at a rare location were discussed.

**Case presentation:** A 24-year-old woman with complaints of urinary retention and a mass protruding out of the urethral external meatus presented to the obstetrics and gynecology clinic. On pelvic examination, a red like mass was seen into urethral external meatus. Under local anesthesia, the patient underwent a basic excision of the urethral mass. Histopathological examination confirms the diagnosis of urethral leiomyoma.

**Clinical discussion:** Urethral masses are uncommon. The benign of which include urethral caruncle, Skene's duct cyst, Gartner's duct cyst, papilloma, hemangioma, and leiomyoma. After examination of the patient initial diagnosis was caruncle but after the pathology results showed leiomyoma.

**Conclusion:** Urethral leiomyoma is a rare benign tumor, which does require a histopathological examination for a definitive diagnosis despite being a benign formation. Urethral leiomyoma can be successfully removed with good outcomes.

## 1. Introduction

Leiomyomas are benign tumors of smooth muscle. Extrauterine leiomyomas are rare, especially in the soft tissue like the female urethra, which are rare benign mesenchymal tumors that arise from the smooth muscle of the urethra [1–3]. We describe an unusual case of urethral leiomyoma that was a mass protruding out of the urethral external meatus after the patient had fallen from stairs. This case report has been reported in line with the SCARE Criteria [4].

## 2. Case presentation

A 24-year-old nullipara woman with complaints of urinary retention and a mass protruding out of the external meatus presented to the gynecology and obstetrics clinic. The patient reported that she started those complaints after she fell from the stairs. She had no known history of any medical disease, medications or allergies.

On examination, the patient appeared well. The patient's temperature was 35.6 °C, with a pulse rate of 86 beats/min, a blood pressure of 110/70 mm Hg, a respiratory rate of 18 breaths/min, and an oxygen saturation of 99 %. On pelvic examination, a 20 × 16 × 18 milimetre

(mm) in size, red like mass was seen in the urethral external meatus (Fig. 1). There was no evidence of any other findings. A transvaginal and transabdominal ultrasound image of the pelvis was performed and revealed a normal uterine size and ovaries, as well as a full urinary bladder.

Under local anesthesia, we performed a basic excision of the urethral mass. Then we inserted an 18 F catheter into the urethral external meatus to remove urinary retention and check for patency of the external urethral meatus (Fig. 2). No surgical complications occurred. The patient was discharged after the surgical removal of the mass. She had no pain or any discomfort. No medications given on discharge, a urine flow evaluation performed 1 month after surgery, there was seen no urinary retention.

Gross examination revealed a rose-red firm mass with an even surface sized 20 × 16 × 18 mm. Opening of the mass capsule visualized a yellow–gray firm mass with no necrosis and hemorrhages, a diagnosis of leiomyoma was made. Histopathologic examination confirmed the diagnosis.

<sup>\*</sup> Corresponding author.

E-mail address: [dradilbarut@gmail.com](mailto:dradilbarut@gmail.com) (A. Barut).

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**Fig. 1.** Mass was seen in the urethral external meatus.



**Fig. 2.** 18 F catheter into the urethral external meatus to remove urinary retention and check for patency of the external urethral.

### 3. Discussion

Urethral masses are uncommon. The benign of which include urethral caruncle, Skene's duct cyst, Gartner's duct cyst, papilloma, hemangioma, and leiomyoma. Initially, after patient examination we thought the mass to be caruncle but during surgery and after pathology was done we confirmed it to be a leiomyoma.

Leiomyomas are benign mesenchymal tumors, the origin of which occurs from smooth muscles, which can occur in any tissue that contains smooth muscle. They are the most common seen in the uterus. But, they have also occurred in uncommon sites and displayed unusual growth patterns in sites such as the vulva, ovaries, urethra, and bladder in the genitourinary tract. They mainly affect reproductive-age women in their third and fourth decades of life due to the fact that leiomyomas grow in a hormone dependent manner like uterine leiomyomas. Urethral leiomyoma is very rare, which found in this case, which is most frequently seen in the proximal urethra [1,5]. In this case, there was protrusion of the urethral external meatus. This condition was an unusual side in this case.

Patients with urethral leiomyomas are usually asymptomatic, but sometimes the leiomyoma in the urethral meatus can cause obstructive symptoms such as dysuria, weak urine flow, post-voiding drip, and irritative lower urinary system symptoms [6]. This patient presented with acute urinary retention and a mass located at the distal urethra because of developing complete stenosis, which is relatively unusual.

A thorough assessment includes a detailed history, and physical examination and examination of imaging are most importance in the evaluation of a urethral mass [6].

Radiological imaging such as ultrasound, pelvic magnetic resonance imaging (MRI), or computed tomography (CT) scan might be confirmed helpful. Imaging modalities may help to determine the exact location of the mass, the depth of tissue infiltration, the tissue plane, and finally the planning of surgical excision. Ultrasound imaging shows a well-defined iso- to hypo echoic homogenous mass [3,7].

This patient had a history of complaints after she fell from stairs. On physical examination, the 20 × 16 × 18 mm in size, red like mass was seen in the urethral external meatus, which was no evidence of any mass on ultrasound in this case.

The treatment of urethral leiomyoma is always surgical. The surgical approach depends on the tumor size and location. Local excision is usually recommended. Complete surgical excision is usually achieved [3,8]. Under local anesthesia, this patient underwent a complete surgical excision of the external urethral mass. During surgical excision, care should be taken not to damage the urethra. We inserted the 18 F catheter into the urethral external meatus to remove urinary retention and check for patency of the external urethral meatus after surgical excision. A urinary flow evaluation was performed 1 month after surgery, which revealed a normal peak urinary flow nomogram and the total absence of urinary retention in the urethra. We inserted the 18 F catheter into the urethral external meatus to remove urinary retention and check for patency of the external urethral meatus after surgical excision. A urinary flow evaluation was performed 1 month after surgery, which revealed a normal peak urinary flow nomogram and the total absence of urinary retention.

### 4. Conclusion

Urethral leiomyoma is a rare benign tumor, which does require a histopathological examination for a definitive diagnosis despite being a benign formation. Urethral leiomyoma can be successfully removed with good outcomes. It should be kept in mind that acute urinary retention may develop in patients with complete stenosis.

### Provenance and peer review

No peer review not commissioned.

### Consent

Written patient consent was obtained from the patient for publication of this case report.

### Ethical approval

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Surgical and medical practices: Adil Barut, M.D.  
 Concept: Adil Barut, Deka Omer Mohamud, M.D.  
 Design: Adil Barut, Deka Omer Mohamud, M.D.  
 Literature search: Adil Barut, Deka Omer Mohamud, M.D.  
 Writing: Adil Barut, Deka Omer Mohamud, M.D.

### Declaration of competing interest

None.

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