Urethral leiomyoma: Common tumor at unusual site

Shanthi Vissa[1], Bhavana Grandhi[2], Jigeesha Gutti[3], Saumya Bandla[4], Pakam Dinusha[4]

From [1]Professor, [2]Associate Professor, [3]Assistant Professor, [4]Tutor, Department of Pathology, Narayana Medical College and Hospital, Nellore, Andhra Pradesh, India

Correspondence to: Dr. Shanthi Vissa, Flat No. 103, Anjani SVGK Towers, Sri Hari Nagar, Ramalingapuram, Nellore, Andhra Pradesh, India. E-mail: santhijp@gmail.com

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ABSTRACT

Urethral leiomyoma is a rare benign mesenchymal neoplasm arising from the urethral smooth muscle. They produce diagnostic dilemma to the clinicians as it is a rare site for these tumors and these tumors should be differentiated from other urethral tumors. Here, we report the case of a 35-year-old female patient presenting with a mass attached to the anterior wall of the urethra. Histopathologic examination confirmed the diagnosis of leiomyoma.

Keywords: *Benign mesenchymal tumor, Leiomyoma, Urethra*

Urethral leiomyoma is a benign mesenchymal neoplasm arising from the urethral smooth muscle. Leiomyoma is more common in the genitourinary tract and next in frequency is gastrointestinal tract. They are rare in deep tissues and skin. Leiomyoma is categorized into three groups: Cutaneous leiomyoma, angioleiomyoma, and leiomyoma of deep soft tissue [1]. Urethral leiomyoma is categorized as leiomyoma of deep soft tissue. Buttner in 1894 first described these tumors. It can occur at any age group with a slight predominance in females [2]. Clinical presentation of these tumors is urinary retention, dysuria, urinary tract infections, voiding dysfunctions, and heaviness due to the tumor. When present in the distal part of the urethra, it presents as a protruding mass [3]. We present a case of urethral leiomyoma in the distal urethra in a 35-year-old female presenting with protruding mass in the vagina.

CASE REPORT

A 35-year-old female patient came to the urology department with a chief complaint of mass per vagina for 1 year. She had no history of pain/discharge/fever or urinary complaints. On examination, a firm to soft pedunculated growth around 3 cm × 2 cm arising anterior to the urethral meatus was noticed. On per vaginal examination, vagina and cervix were healthy. All the fornices were free. Her blood pressure was 120/80 mmHg and pulse rate was 70/min. Through clinical examination, a provisional diagnosis of fibroepithelial polyp of the urethra was made.

Hematological investigations showed total leukocyte count of 10,000/μL, with differential count showing neutrophils: 78%, lymphocytes: 21%, and monocytes: 1%. Platelet count was 130,000/μL. Urine examination revealed a few pus cells. Cystourethroscopy revealed a polypoidal growth of size 3 × 3 cm arising from the anterior wall of the urethra.

Under spinal anesthesia, the mass was excised and sent for histopathological examination. The post-operative period was uneventful. Grossly, we received a pedunculated polypoidal gray-white soft tissue mass measuring 3 cm × 3 cm × 2 cm (Fig. 1). Microscopic examination revealed polypoidal tissue lined by transitional and stratified squamous epithelium. Underlying fibrocollagenous tissue showed a circumscribed lesion composed of spindle-shaped cells arranged in fascicles and interlacing bundles (Fig. 2). Cells have oval elongated nuclei and a moderate amount of eosinophilic cytoplasm (Fig. 3). A follow-up of the patient was done after 6 months, which revealed no recurrence and the patient was asymptomatic.

DISCUSSION

Leiomyoma is a benign mesenchymal tumor occurring most commonly in the genital tract (95%). Urethral leiomyoma is a very rare tumor which is categorized as deep tissue leiomyoma. The benign urethral neoplasm may arise from either glandular epithelium, stratified squamous epithelium, transitional epithelium, smooth muscle fibers, or striated muscle fibers. Most common tumors are polyps and papillomas. Leiomyoma is very rare, and until now, only 40 cases were reported in the literature [4]. Urethral leiomyoma shows mild female predominance and usually occurs at the posterior wall of the proximal urethra [5]. In our case, leiomyoma was present at the anterior wall of the distal urethra. In women, this tumor occurs in the reproductive age group in the 3rd and 4th decades [4]. Size of the tumor has been shown to increase during pregnancy and decrease after the menopause which indicates the hormone dependency of these tumors. In men, tumors arise from any part of the urinary tract, kidney being the common site. Other sites are urinary bladder,

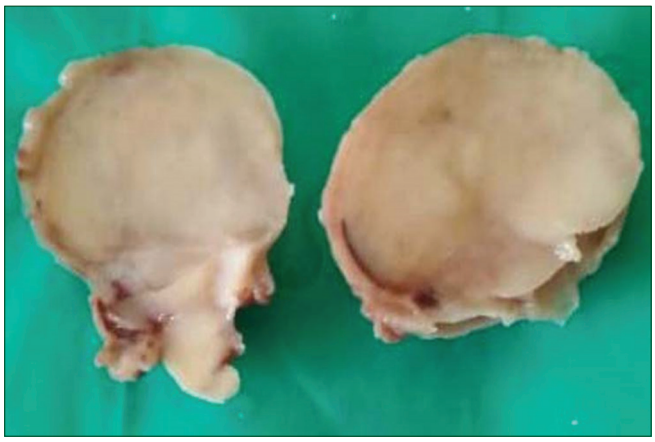

Figure 1: Pedunculated polypoidal gray-white lesion

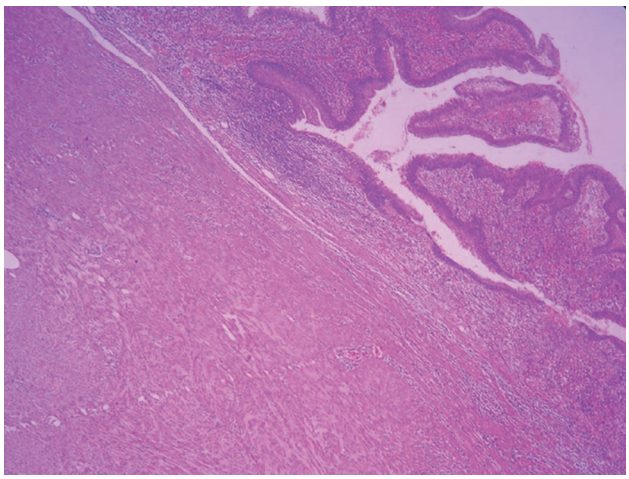

Figure 2: Tissue lined by transitional epithelium with underlying circumscribed lesion composed of spindle-shaped cells (H and E, ×100)

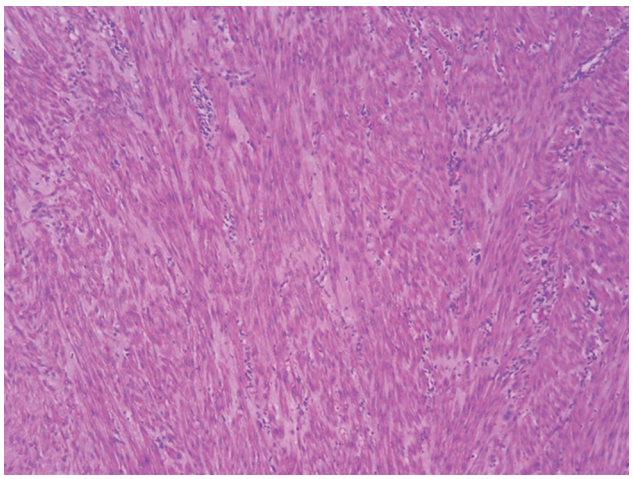

Figure 3: Lesion composed of spindle-shaped cells arranged in fascicles (H and E, ×400)

scrotum, epididymis, spermatic cord, penis, prostate, and seminal vesicles.

Detailed clinical history and physical examination are very important in the evaluation of the condition. Radiological imaging such as computerized tomography, magnetic resonance imaging (MRI), and ultrasound may help in diagnosis. On MRI, the lesion appears as homogenous well-encapsulated mass which is isointense on Type 1 (T1) and an intermediate signal on T2 with contrast enhancement [6]. On ultrasound, the lesion appears as iso to hypoechoic homogenous mass which has whorled appearance, and on color flow Doppler significant vascularity is seen [7]. These imaging modalities are helpful to determine the location of tumor, depth of infiltration, presence of features of malignancy, and finally in planning for treatment modality, but in the present case, no investigations were done as the lesion was clinically visible, so the urologists have directly excised the pedunculated lesion.

This tumor should be differentiated from other lesions occurring in lower urinary tract such as urethral diverticulum, urethrocele, caruncle, Gartner's duct cyst, Skene duct cyst, and urethral carcinoma. The final diagnosis depends on the histopathological examination of the lesion. Urethral leiomyoma shows smooth muscle cells arranged in fascicles and interlacing bundles. On immunohistochemistry, the cells will be positive for smooth muscle actin and desmin indicating smooth muscle origin. Local surgical excision is the treatment of choice. Recurrence of these tumors is very rare, though occasional case has been described in the literature [8]. Prognosis of urethral leiomyoma is excellent. Malignant transformation has not been reported till date.

CONCLUSION

Urethral leiomyoma is rare neoplasm occurring usually in proximal urethra arising from posterior wall. We present this case due to its rarity and uncommon presentation in the distal urethra arising from anterior wall. Surgical excision is recommended for these tumors which have an excellent prognosis.

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