



Case Report

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Paraurethral Leiomyoma: A Case Report and Literature Review

Elnaz Rastkar¹, Aila Kari¹, Safura Hatami¹, Parvin Bastani¹

Women's Reproductive Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran

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Running Title A Case Report of Paraurethral Leiomyoma

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ABSTRACT

Paraurethral leiomyoma is a rare benign mass. Its rarity and complex anatomical proximities pose challenges in management. The authors report a case of a 35-year-old woman with a paraurethral leiomyoma that was successfully excised without complications. Histopathological examination is the gold standard for diagnosis; however, imaging can also assist in diagnosis before intervention.

Introduction

Leiomyomas are common benign tumors of the uterus, although extra-uterine leiomyomas are rare. Extrauterine leiomyomas can originate from the broad ligament, fallopian tubes, ovaries, and vagina [1]. Leiomyomas account for approximately 5% of paraurethral masses [2]. The management of paraurethral leiomyomas is challenging due to their anatomical proximity to the urethra, bladder, and vagina. The authors report a case of a large paraurethral leiomyoma that was successfully removed.

outpatient urogynecology clinic. She had been complaining of a genital mass for 8 years, which had gradually enlarged; however, she did not experience any urinary or genital symptoms. On examination, a round, protruding, mobile, rubbery mass measuring approximately 50*30 mm was observed between the urethral meatus and vagina (Figure 1). She had no past medical history, had undergone one cesarean section delivery, and had not used any drugs.

Transvaginal sonography visualized a sharply defined solid mass in the anterior vaginal wall with blood flow, which was compressing the urethra. Magnetic resonance imaging revealed a round, well-circumscribed 24*24 mm mass between the urethra and lower anterior vagina, which protruded into the vagina and enhanced homogeneously. No evidence of invasion was reported in the MRI.

Case Report

A 35-year-old primiparous woman visited the

*** Corresponding Author:**

Parvin Bastani

Address: Women's Reproductive Health Research Centre, Alzahra hospital, Tabriz University of Medical Science, Tabriz, Iran**E-mail:** bastani@tbzmed.ac.ir

The operation was performed in the lithotomy position under spinal anesthesia. A Foley catheter (French 16) was inserted into the urethra before surgery. The incision was made longitudinally at the anterior wall of the vagina (Figure 2); the solid, encapsulated mass was completely enucleated using a vaginal approach. There was no connection between the mass and the urethra. The urethral lumen was completely intact. Subsequently, cystoscopy was performed. The bladder mucosa was completely intact. The resected specimen contained an encapsulated oval, gray, soft, rubbery mass, with a homogenous gray-yellow surface on cutting (Figures 3,4). The pathological features confirmed the diagnosis of leiomyoma. The patient was discharged one day later. The urinary catheter remained for a week after surgery. The patient had neither urinary symptoms nor recurrence during 6 months of follow-up after surgery.

Discussion

Para-urethral leiomyomas are rare benign urogenital tract tumors in women. Leiomyomas account for approximately 5% of paraurethral tumors [2]. About 69.5% of these tumors occur in the anterior vaginal wall [3]. Paraurethral leiomyomas are often asymptomatic, similar to this case; however, the size and location of the tumor can lead to various symptoms including dyspareunia, pelvic pressure, vaginal bleeding, lower abdominal and back pain, dysuria, frequency, and other urinary symptoms [3,4].

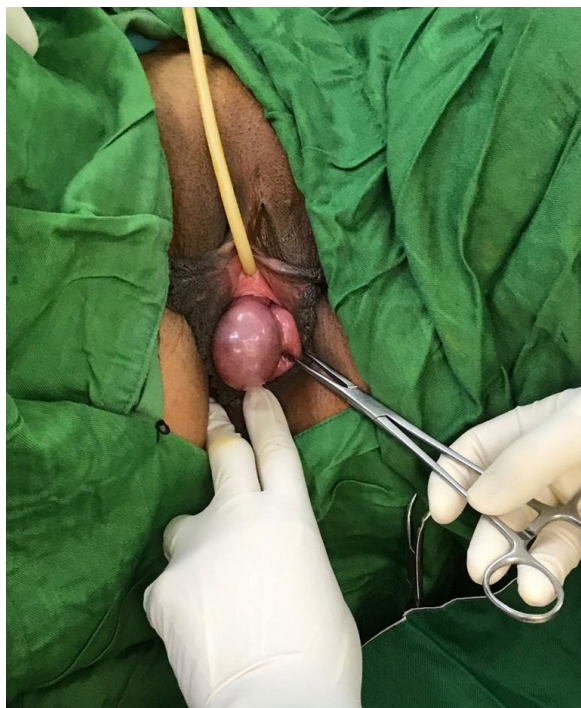


Fig. 1. A Paraurethral mass

The differential diagnosis for female paraurethral lesions is diverse, ranging from urethral diverticulum to vaginal wall cysts and leiomyoma [2]. Malignant lesions, including sarcoma, adenocarcinoma, and squamous cell carcinoma, are the most important differential diagnoses that should be ruled out. Malignant transformation of leiomyoma is rare, although such transformation has been reported in posterior vaginal wall leiomyomas [3,5].

Macroscopic features of lesions and imaging can help distinguish the type of masses before surgical intervention. Also, imaging should be performed before intervention to describe the relationship of the lesion with the urethra. In ultrasonography, leiomyoma appears as well-defined hypoechoic solid masses with blood flow signals [6]. MRI shows leiomyoma as a hypo-intense or isointense lesion in T1-weighted images and hyperintense or isointense in T2-weighted images with homogeneous enhancement. However, leiomyoma degeneration could define the variable signal intensity in MRI [7,8].

A definitive diagnosis is established on the histological diagnosis. Therefore, surgical excision of paraurethral lesions is necessary to relieve symptoms and establish a histologic diagnosis [9]. Given the intimate relationship of these masses to the bladder and urethra, injury to these organs should be considered as a probable complication of the surgery. Foley catheter insertion can prevent urethral injury

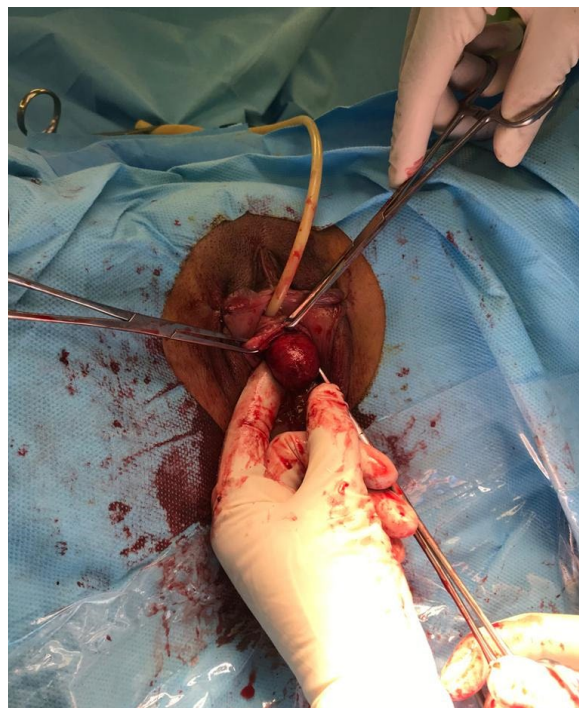


Fig. 2. Enucleation of the mass by vaginal incision



Fig. 3. Macroscopic features of resected mass

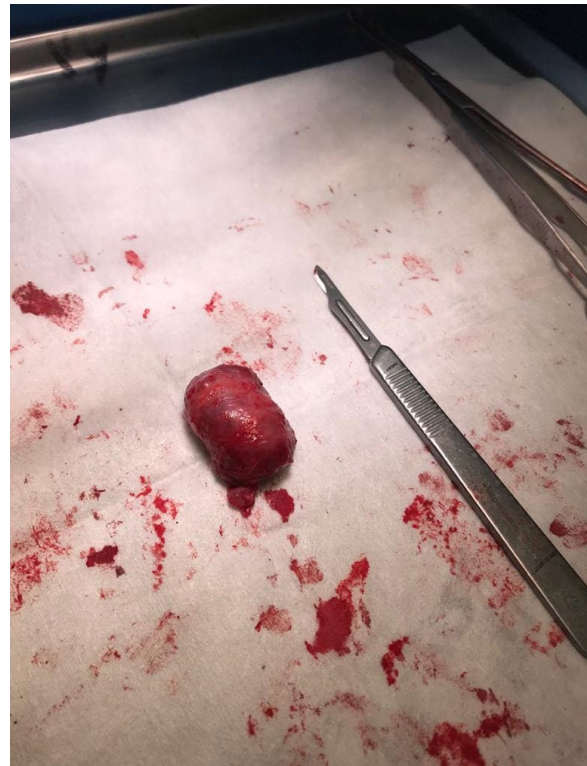


Fig. 4. Macroscopic features of resected mass

and other complications. Clinical follow-up is required for the assessment of any urinary symptoms like incontinence. Migliari et al. reported two cases of stress urinary incontinence during the follow-up after paraurethral leiomyoma resection [10]. The presented case was not complicated by the surgical procedure; also, during 3 months of follow-up, she did not face any urinary complications.

Paraurethral leiomyomas have estrogen receptors and are hormone-dependent. Therefore, they are more common in reproductive ages. They grow during pregnancy and regress after menopause. GnRH agonists could be used before the excision of large masses to regress the size of the tumor and reduce the bleeding during surgery [11].

In conclusion, leiomyoma is a rare diagnosis of paraurethral masses. The anatomical relationship of the mass with the urethra and bladder poses a challenge for clinicians. Imaging modalities play a crucial role in pre-operative diagnosis and operation planning.

Ethical Considerations

Compliance with ethical guidelines

There were no ethical considerations to be considered in this article.

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Conflict of Interests

The authors have no conflict of interest to declare.

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