

Benign Masses of Female Anterior Aginal Wall and Periurethral Tissues

Kadın Ön Vajina Duvar ve Periüretal Dokularının İyi Huylu Kitleleri

Osman Köse¹, Osman Köse², Yavuz Tarık Atik³, Koray Gök⁴,
Mehmet Sühha Bostancı⁵, Selçuk Özden⁵

¹ Sakarya Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Kliniği Jinekolojik Onkoloji Birimi, Sakarya, Türkiye

² Sakarya Üniversitesi Tıp Fakültesi Üroloji Anabilim Dalı, Sakarya, Türkiye

³ Sakarya Eğitim ve Araştırma Hastanesi Üroloji Kliniği Sakarya, Türkiye

⁴ Marmara Üniversitesi Pendik Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Kliniği Perinatoloji Bilim Dalı- İstanbul

⁵ Sakarya Üniversitesi Tıp Fakültesi Kadın Hastalıkları ve Doğum Kliniği Anabilim Dalı, Sakarya, Türkiye

Yazışma Adresi / Correspondence:

Osman Köse

Sakarya Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Kliniği Jinekolojik Onkoloji Cerrahisi Birimi Sakarya, Türkiye

T: +90 505 464 79 47

E-mail : dr.osman.kose15@gmail.com

Geliş Tarihi / Received : 21-03-2022 Kabul Tarihi / Accepte: 13-06-2022

Orcid :

Osman Köse <https://orcid.org/0000-0001-5656-6853>

Osman Köse <https://orcid.org/0000-0002-1053-3551>

Yavuz Tarık Atik <https://orcid.org/0000-0002-6398-8410>

Koray Gök <https://orcid.org/0000-0002-7420-1484>

Mehmet Sühha Bostancı <https://orcid.org/0000-0002-4776-6244>

Selçuk Özden <https://orcid.org/0000-0002-3346-7227>

(Sakarya Tıp Dergisi / Sakarya Med J 2022, 12(2):322-327) DOI: 10.31832/smj.1090765

Abstract

Objective This study aims to point out reliable diagnosis and correct treatment for rare benign perivaginal masses.

Materials and Methods Between March 2020 and March 2021, the treatment, pathology and postoperative management of patients who were diagnosed with benign anterior vaginal mass (AVM) from the medical records of Sakarya University Training and Research Hospital Urology and Urogynecology clinics were summarized and analyzed. The patients were followed up for 1 year in the postoperative period.

Results The mean age of the patients was 44.2 ± 9.71 SD (Standard Deviation) years (min-max, 26-56) The patients included in the study had dyspareunia in 8 cases, dysuria and urgency in 5 cases, and mass symptoms in 4 cases. When the cases were examined according to their histopathological diagnoses, 3 cases were leiomyoma, 4 cases were cysts, 2 cases were transitional epithelial-lined cysts, and 1 case was fibroepithelial polyp.

Conclusion Although benign perivaginal masses are rare, symptoms improve when the correct diagnosis is made, and appropriate surgery is performed. Differential diagnosis is necessary for an appropriate treatment approach.

Keywords Perivaginal masses; periurethral cyst; vaginal leiomyoma; dyspareunia;

Öz

Amaç Bu çalışmanın amacı, nadir görülen perivajinal kitlelerde güvenilir tanı ve tedaviyi işaret etmektir.

Gereç ve Yöntem Sakarya Üniversitesi Eğitim Araştırma Hastanesi Üroloji ve Ürojinekoloji kliniklerinde Mart 2020- Mart 2021 yılları arasındaki tıbbi kayıtlardan iyi huylu anterior vajinal kitleler (AVM) nedeniyle gerçekleştirilen ameliyatlara taranarak teşhis, tedavi, patoloji ve postoperatif yönetimleri özetlendi ve analiz edildi.

Bulgular Hastaların ortalama yaşı 46.2 yıl idi. Çalışmaya alınan hastaların 8 olguda dispareuni, 5 olguda dizüri ve sıkışma hissi, 4 olguda kitle semptomları hissi vardı. Olgular histopatolojik tanılarına göre incelendiğinde 3 olgu leiomyom, 4 olgu kist, 2 olgu transizyonel epitel döşeli kist ve 1 olgu fibroepitelyal polip idi.

Sonuç İyi huylu perivajinal kitleler nadir görülürler de doğru teşhis koyularak uygun cerrahi yapıldığında semptomlarda gerileme meydana gelir. Ayırıcı tanının yapılması uygun tedavi yaklaşımı için gereklidir.

Anahtar Kelimeler Perivajinal kitleler; periüretal kist; vajinal leiomyoma; dispareuni;

INTRODUCTION

Benign anterior vaginal masses (AVM) are rare entities with similar signs and symptoms, posing a diagnostic and therapeutic challenge.^{1,2} Benign masses in the periurethral tissues are less common. At the same time, those in the anterior vaginal wall are less common and have an estimated prevalence of approximately 1%.³ Well-defined protocols for diagnosis and management have not been established, as there are few case series reported on this condition.¹ In the differential diagnosis of periurethral or anterior vaginal mass, there are many causes such as periurethral cyst (Skene duct cyst), urethral prolapse, ectopic ureterocele, urethral diverticula, embryonic vaginal wall cyst (Müllerian and Gartner duct), and malignant neoplasms of urethral and vaginal origin.^{4,5} It is essential to ensure the clinical management of these patients so that any clinician involved in gynecological or female urological practice can reach the correct diagnosis and treatment. In this study, we planned to share our experiences in managing masses in the anterior vaginal wall in line with 10 cases that we will present in adult women.

MATERIAL and METHOD

Our study was retrospectively on adult women who applied to Sakarya University Training and Research Hospital, Urology and Urogynecology Clinics between March 2020-March 2021 and were treated with the diagnosis of anterior vaginal wall mass patients' complaints at admission, demographic data such as age and parity, symptoms and findings at presentation, diagnostic tests performed, surgical intervention performed, early and late complications, and histopathological examination results were evaluated. Since all patients presented with symptoms, asymptomatic patients were not included in the study. This descriptive study includes 10 patients diagnosed with a mass in the anterior vaginal wall between March 2020 and March 2021.

Prior to collecting the research data, approval was obtained from the Sakarya University Training and Research Hospital Local Ethics Committee (date: 30/03/2021 and

no: 188). The study was conducted in accordance with the Principles of the Declaration of Helsinki.

Before surgical excision, after gynecological examination under anesthesia, urethrocytoscopy was performed to evaluate the relationship of the lesion with the urethra, bladder neck, and bladder. The presence of tumor, stone, or diverticulum was excluded. Magnetic resonance imaging (MRI) results of patients suggestive of solid mass were analyzed.

Statistical analysis

Percentage and number were used for categorical variables, mean and standard deviation were used for defining continuous variables. Cases were described one by one and sample photos were included with the permission of the patients.

RESULTS

The mean age of the patients was 44.2 ± 9.71 SD (Standard Deviation) years (min-max, 26-56). All women were evaluated by history, urogynecological examination, urethrocytoscopy, and pelvic floor sonography. The symptoms ranged from asymptomatic women to those with painful perivaginal masses associated with urinary incontinence and/or voiding difficulties. When patients were evaluated, symptoms were as follows: the sensation of mass, pressure in the vagina or urethra, pain, dyspareunia, vaginal burning sensation, urgency to void, and stress urinary incontinence.

The size and configuration of the AVM varied considerably. The size of the AVM amounted to between 0.8 and 11.5 cm. Postoperative histopathological examination characterized the incision diagnosis of the masses. Complications and persistent postoperative symptoms occurred in none of the patients. When the cases were examined according to their histopathological diagnoses, they were 30% leiomyoma, 40% cyst, 20% transitional epithelial lined cyst and 10% fibroepithelial polyp.

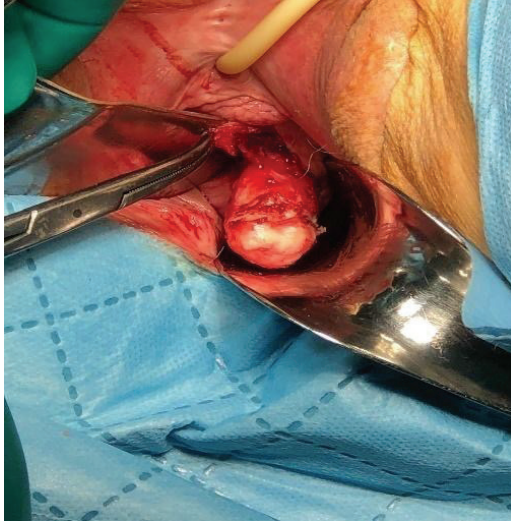


Figure 1. Surgical operation image of the leiomyoma excision on the anterior vaginal wall of the 2nd patient



Figure 2. Anterior vaginal wall leiomyoma magnetic resonance image of patient number 1

Table 1. Patient characteristics, symptoms, and lesion characteristics.

case	age	location	Symptom	pathological diagnosis	diameter "cm"	complication	result
1	46	Anterior wall	urgency, dyspranoea, sensation of mass	leiomyoma	11,5x7	none	Symptoms disappeared
2	48	leftantero lateral wall	Dyspranoea, disuria	leiomyoma	4x3	none	Symptoms disappeared
3	56	paraurethral	urgency, dyspareunia, sensation of mass	leiomyoma	3.5x2.5	none	Symptoms disappeared
4	50	paraurethral	Dyspareunia, urgency,	fibroepithelial polyp	1.8x1.8	none	Symptoms disappeared
5	28	paraurethral	dyspareunia urgency	Cyst lined with non-keratinized squamous epithelium	1.5x1	none	Symptoms disappeared
6	45	paraurethral	urgency, disuria	Cyst lined with non-keratinized squamous epithelium	2x1.5 1.6x0.8	none	Symptoms disappeared
7	26	paraurethral	Dyspareunia, disuria	Cyst covered by stratified squamous epithelium	2.5x1.5	none	Symptoms disappeared
8	46	paraurethral	dyspareunia, sensation of mass	Cyst lined with squamous epithelium	4x3.5	none	Symptoms disappeared
9	52	paraurethral	Disuria,	Transitional and squamous epithelial lined cyst	3x2.5	none	Symptoms disappeared
10	45	paraurethral	dyspareunia, sensation of mass, disuria	transitional epithelial-lined cyst + bartholin cyst	4x3	none	Symptoms disappeared

DISCUSSION

Although benign anterior vaginal masses (AVM) are rare, they have a broad differential diagnosis range. While masses can be cystic or solid, they can originate from the vaginal, urethral, or surrounding tissues. Therefore, it is essential to know and understand the etiology and different types of benign posterior vaginal masses and diagnose and treat them correctly. Anterior vaginal wall masses are generally benign (urethral diverticulum, leiomyoma, ectopic ureter, periurethral cyst, pelvic organ prolapse).^{3,6} It has been reported that the most common diagnosis of the urethral diverticulum is seen in studies.³ In our study, periurethral cysts are congenital due to degeneration of the periurethral glands and consist of most of the cases. It is suggested that they are mostly related to infections and traumas in adulthood.⁷ They are usually asymptomatic simple cysts found incidentally on examination at the anterolateral vaginal wall. Although all patients in our study had symptoms, it has been reported in the literature that they were asymptomatic patients.⁸ Non-symptomatic patients were not included in the study. The patients were not receiving any medical treatment at the time of enrollment. Therefore, the relationship between surgery and medical treatment in these patients was not evaluated. In this way, the possibility of affecting the surgical results from medical treatment was excluded. Since the regression of the mesonephric ducts and the development of the metanephric urinary system are close, these cysts may be associated with the ectopic ureter, unilateral renal hypoplasia or renal dysplasia.⁹ Currently, there is no clear consensus on the treatment of paraurethral cysts. However, surgical excision appears to be the best treatment option.¹⁰ We performed excision surgery on all patients with periurethral cysts. No complications or recurrences were observed in any of the patients during follow-up. When the literature is evaluated, Foster et al. Although they stated that they did not observe recurrence in their case series, which they followed for an average of 46 months by performing surgical excision, Shah et al. reported 30% recurrence in patients who underwent surgical excision.^{7,11}

Periurethral leiomyomas are rare, benign tumors originating from anterior vaginal smooth muscle or vesicovaginal septum, constituting approximately 4-5% of periurethral masses seen in the reproductive tract period.^{12,13} Leiomyomas of the vagina are only about 300 reported cases and common in women between 35 to 50 years.¹⁴ Although its etiology is not fully understood, it is thought to originate from embryonal residual blood vessel tissue and smooth muscle fibers.¹⁵ Clinical manifestations correlate with the position of the fibroid tissue relative to the urethra. Small lateral fibroids are usually asymptomatic, while large or centrally located masses cause dysuria, frequency, dyspareunia, hematuria, and obstructive symptoms.^{16,17} However, symptoms were present in all three of our cases. The common complaints in our patients were dysuria, frequency, dyspareunia, which is consistent with the literature. Cases that are asymptomatic in ordinary life may become symptomatic during pregnancy with the effect of high serum estrogen levels.¹⁸ Therefore, surgical treatment should not be postponed in patients considering pregnancy.

Fibroepithelial polyps, seen in only one of our patients, are rare intraurethral lesions more common in the reproductive period, although they may rarely occur in newborns and children.¹⁹ Although the pathogenesis of these lesions is not well understood, they are known to be benign. Urethral fibroepithelial polyps are typically benign urothelium-lined lesions.²⁰ These lesions may cause partial urethral obstruction and de novo acute urinary retention.

CONCLUSION

AVM was sometimes asymptomatic or accompanied by symptoms depending on the location and size. Case history, clinical examination, urethrocystoscopy, and MRI are the main tools used in the differential diagnosis of anterior vaginal wall masses. Surgical excision is the main treatment approach.

Conflict of Interest

The authors declared no conflict of interest.

Financial Disclosure

The authors declared that this study had received no financial support.

Prior to collecting the research data, approval was obtained from the Sakarya University Training and Research Hospital Local Ethics Committee (date: 30/03/2021 and no: 188).

References

1. Fletcher SG, Lemack GE. Benign masses of the female periurethral tissues and anterior vaginal wall. *Current urology reports*. 2008;9(5):389-396.
2. Niu S, Didde RD, Schuchmann JK, Zoorob D. Gartner's duct cysts: a review of surgical management and a new technique using fluorescein dye. *International urogynecology journal*. 2020;31(1):55-61.
3. Blaivas JG, Flisser AJ, Bleustein CB, Panagopoulos G. Periurethral masses: etiology and diagnosis in a large series of women. *Obstetrics and gynecology*. 2004;103(5 Pt 1):842-847.
4. Liaci AL, Boesmueller H, Huebner M, Brucker SY, Reisenauer C. Perivaginal benign masses: diagnosis and therapy in a series of 66 women. *Archives of gynecology and obstetrics*. 2017;295(2):367-374.
5. Wyman AM, McDowell M, Prieto I, et al. A 10-Year Case Series of Surgically Managed Periurethral Masses at a Single Tertiary Care Institution. *Female pelvic medicine & reconstructive surgery*. 2020;26(11):668-670.
6. Arezzo F, Loizzi V, La Forgia D, et al. The Role of Ultrasound Guided Sampling Procedures in the Diagnosis of Pelvic Masses: A Narrative Review of the Literature. *Diagnostics (Basel, Switzerland)*. 2021;11(12).
7. Foster J, Lemack G, Zimmern P. Skene's gland cyst excision. *International urogynecology journal*. 2016;27(5):817-820.
8. Cross JJ, Fynes M, Berman L, Perera D. Prevalence of cystic paraurethral structures in asymptomatic women at endovaginal and perineal sonography. *Clinical radiology*. 2001;56(7):575-578.
9. Sheih CP, Li YW, Liao YJ, Huang TS, Kao SP, Chen WJ. Diagnosing the combination of renal dysgenesis, Gartner's duct cyst and ipsilateral müllerian duct obstruction. *The Journal of urology*. 1998;159(1):217-221.
10. Sharifiaghdas F, Daneshpajoo A, Mirzaei M. Paraurethral cyst in adult women: experience with 85 cases. *Urology journal*. 2014;11(5):1896-1899.
11. Shah SR, Biggs GY, Rosenblum N, Nitti VW. Surgical management of Skene's gland abscess/infection: a contemporary series. *International urogynecology journal*. 2012;23(2):159-164.
12. Bai SW, Jung HJ, Jeon MJ, Jung DJ, Kim SK, Kim JW. Leiomyomas of the female urethra and bladder: a report of five cases and review of the literature. *International urogynecology journal and pelvic floor dysfunction*. 2007;18(8):913-917.
13. Wang X, Lei J, Zhang W, Zhou J, Song L, Ying T. The ultrasonographic characteristics of female periurethral solid masses. *International urogynecology journal*. 2022;33(3):605-612.
14. Costantini E, Cochetti G, Porena M. Vaginal para-urethral myxoid leiomyoma: case report and review of the literature. *International urogynecology journal and pelvic floor dysfunction*. 2008;19(8):1183-1185.
15. Leron E, Stanton SL. Vaginal leiomyoma--an imitator of prolapse. *International urogynecology journal and pelvic floor dysfunction*. 2000;11(3):196-198.
16. Ozel B, Ballard C. Urethral and paraurethral leiomyomas in the female patient. *International urogynecology journal and pelvic floor dysfunction*. 2006;17(1):93-95.
17. 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 in medicine & biology*. 2020;46(8):1896-1907.
18. Dane C, Rustemoglu Y, Kiray M, Ozkuvanci U, Tatar Z, Dane B. Vaginal leiomyoma in pregnancy presenting as a prolapsed vaginal mass. *Hong Kong medical journal = Xianggang yi xue za zhi*. 2012;18(6):533-535.
19. Demircan M, Ceran C, Karaman A, Uguralp S, Mizrak B. Urethral polyps in children: a review of the literature and report of two cases. *International journal of urology : official journal of the Japanese Urological Association*. 2006;13(6):841-843.
20. Suzuki T, Epstein JI. Fibroepithelial polyp of the lower urinary tract in adults. *The American journal of surgical pathology*. 2005;29(4):460-466.