Case report

Atypical presentation of recurrent female urethral diverticulum: A case report

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A R T I C L E   I N F O

Keywords:
Urethral diverticulum
Urethral discharge
Transvaginal urethral diverticulectomy

A B S T R A C T

Introduction and importance: The atypical urethral mucosal outpouching into adjacent tissue is termed urethral diverticulum (UD). Most patients present with a post-void dribble, dyspareunia, and dysuria. Case presentation: We reported a 60 years old woman who presented with recurrent urethral discharge, and a palpable lump in the vagina. Cystoscopy showed the location of the diverticular ostium. Clinical discussion: Urethral diverticulum (UD) is uncommon and requires a relatively high level of suspicion, particularly in women with symptoms of atypical voiding. The widely-known classic symptoms involve the ‘three Ds’: post-void dribbling, dyspareunia, and dysuria. For radiological modalities, the transvaginal and transperineal ultrasound (US), Voiding cystourethrogram (VCUG), and cystoscopic examinations should be conducted to establish the diagnosis. Conclusion: Urethral Diverticulum (UD) should always be considered in cases of urethral discharge and intra-vaginal mass. A complete history, complete clinical, VCUG, and cystoscopic examinations should be conducted to establish the diagnosis. The technique of three-layer vaginal flap is related to a very good success rate without major complications.

1. Introduction

The definition of the urethral diverticulum (UD) is an urethral lumen outpouching into the adjacent periurethral connective tissue. Generally, the connection is formed by a neck with an isolated outpouching in the form of cyst-like as the end. UD is an uncommon condition, which affects 1% and 6% of adult women. It has been reported in many asymptomatic or misdiagnosed patients. The classic symptoms include dysuria, dyspareunia, and post-void dribbling, termed as the ‘three Ds’. To visualize the UD when the ostium is patented, voiding cystourethrography (VCUG) may be beneficial. The sensitivity is 67–95%, but the procedure is invasive and inconvenient [1]. In this study, we reported a 60-year-old woman with atypical clinical presentations of UD who underwent surgical excision and UD reconstruction. This case report has been reported in line with the SCARE criteria [2].

2. Case presentation

A 60-year-old woman presented with a urethral discharge. The complaint was accompanied by a palpable swelling in the vagina and intermittent dysuria. The patient went to the obstetrician and undergone pus aspiration on her vaginal wall, but the complaint recurs within 2 weeks. Physical examination showed a swelling in vagina and urethral discharge. Initial laboratory examinations were within normal limits. VCUG showed a lobulated opacification in the inferior site of the bladder. The patient was planned for cystoscopy and transvaginal urethral diverticulectomy. The procedure includes removal of the entire UD sac, watertight closure of the urethra, multi-layered and non-overlapping closure of periurethral fascia and anterior vagina wall with absorbable suture to close dead space. A tampon was inserted for 24 h. No malignancy on the pathological result.

3. Clinical discussion

Urethral diverticulum (UD) is uncommon and requires a relatively high level of suspicion, particularly in women with symptoms of atypical voiding. This condition is more frequent in women compared to men and affects those aged 20 and 60 years old [1,3]. In this case, the patient was a 60-year-old woman. The widely-known classic symptoms involve the ‘three Ds’: post-void...
dribbling, dyspareunia, and dysuria. The most commonly found symptom is dyspareunia [1,3]. The patient's complaints were urethral discharge, palpable swellings, and intermittent dysuria, while dyspareunia and post-void dribbling were not present. This case is interesting because the classical triad was not dominant in the patient [4–5]. An important finding was the swelling on the anterior side of the vaginal wall, which was tender and palpable, since most UD occurred on the anterior side of the vaginal wall, within 1–3 cm into the introitus [1,3]. The patient presented with a palpable vaginal mass on the anterior side. However, the symptoms were not in line with the characteristics and size of UD. Therefore, it is important to raise suspicions and conduct a thorough pelvic examination. Nonetheless, it might not be sufficient to confirm the diagnosis. In such cases, further radiographic evaluation is required [1].

For radiological modalities, the transvaginal and transperineal ultrasound (US) have been reported with a sensitivity of up to 95–100% and may facilitate identifying UD in difficult dissections intraoperatively [1,6]. VCUG can be utilized to visualize the UD. The sensitivity is approximately 67–95%; however, it is invasive and uncomfortable for the patient [1]. The VCUG result showed a lobulated opacification in the inferior side to the bladder (Fig. 1).

The main treatment for UD is transvaginal surgical excision of the diverticulum, and the cure rate is also very good [3]. A successful transvaginal urethral diverticulectomy is formed by a complete UD sac removal, urethral closure in a watertight manner, multi-layered closure, and non-overlapping of the adjacent tissues, by using absorbable suture in order to close the dead space. The position is lithotomy, followed by vaginal antisepic. Afterward, a urinary Foley catheter sized 16-F is placed. A weighted vaginal speculum and Scott retractor (with hooks) are used to facilitate the exposure. An inverted ‘U’ mark is made on the anterior side of the vaginal wall. The base of the ‘U’ is in line with the distal urethra, while the limbs are extended more lateral; the incision is then continued proximally. Any overlapping suture line at the closure can be minimized by the ‘U’ incision [1].

Following the dissected anterior vaginal wall, a transverse incision of the periurethral fascia is made over the UD down to the external wall by dissection (Fig. 2b). The dissection of the UD is then continued in a circumference to line the edges. Entrance to the UD should be avoided (Fig. 2c). Nonetheless, the UD might be required to be opened to help the dissection process. The UD is then dissected to the ostium, in which it connects to the urethra (Fig. 2d). Following the excised UD, the Foley catheter can be visualized at the removed ostium site (Fig. 2e). The watertight-reconstruction of the urethra may be conducted using 4/0 synthetic absorbable sutures with tension-free and watertight closure (Fig. 2f). The re-approximation of the fascia can be conducted using
interrupted 3/0 synthetic absorbable sutures in a perpendicular manner to the urethral closure (Fig. 2g). To complete a three-layer closure, the anterior vaginal wall flap may then be reapproximated using 3/0 absorbable sutures (Fig. 2h). In our patient, the Foley catheter was left in place, and the vaginal tampon was inserted. Postoperatively, the vaginal tampon was removed, and the patient received medications.

After two weeks, the catheter was removed, and the patient had no complaints of urethral discharge and lump from the vagina. Three months later, the patient had no complaints. The pathology anatomy result did not show any malignancies (Fig. 3).

4. Conclusion

UD should always be considered in cases of urethral discharge and intravaginal mass. A complete history, complete clinical, VCUG, and cystoscopic examinations should be conducted to establish the diagnosis. The technique of three-layer vaginal flap is related to a very good success rate without major complications.

Sources of funding

This article received no funding.

Ethical approval

No ethics approval sought as this was a case report with no direct impact on patient outcome.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Research registration

ClinicalTrials.gov, NCT04694003 available at: https://clinicaltrials.gov/show/NCT04694003.

Guarantor

dr. Sawkar Vijay Promod.

Provenance and peer review

Not commissioned, externally peer-reviewed.

CRediT authorship contribution statement

Concept design and preparation of manuscript: Devlin Alfiana and Sawkar Vijay.
Literature search: Pramod, Tjahjodjati.
Preparation of draft manuscript: Devlin Alfiana and Sawkar Vijay.

Declaration of competing interest

All the authors declare that they have no conflict of interest.

References

[1] A.K. Greiman, J. Rolef, E.S. Rovner, Urethral diverticulum: a systematic review, Arab J. Urol. 17 (1) (2019) 49-57.
[2] R.A. Agha, T. Franchi, C. Sohrabi, G. Mathew, untuk Grup SCARE, Pedoman SCARE 2020: Memperbarui Pedoman Laporan Kaus Bedah Konsensus (SCARE), Jurnal Bedah Internasional 84 (2020) 226-230.
[3] I.M. Crescenze, H.B. Goldman, Female urethral diverticulum: current diagnosis and management, Curr. Urol Rep. 16 (10) (2015) 1-7.
[4] J.B. Pincus, M. Laudano, A. Leegant, K. Downing, Female urethral diverticula: diagnosis, pathology, and surgical outcomes at an academicurban Medical Center, Urology 128 (2019) 42-46.
[5] S.A. El-Nashar, R. Singh, M.M. Bacon, S. Kim-Fine, J.A. Occhino, J.B. Gebhart, et al., Female urethral diverticulum: presentation, diagnosis, and predictors of outcomes after surgery, Female Pelvic Med. Reconstr. Surg. 22 (6) (2016) 447.
[6] N. Baradaran, L.R. Chiles, D.A. Freilich, R.A. Rames, L. Cox, E.S. Rovner, Female urethral diverticula in the contemporary era: is the classic triad of the “3Ds” still relevant? Urology 94 (2016) 53-56.