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A COMPLEX URETHRAL DIVERTICULUM: DIAGNOSTIC WORK-UP AND SURGICAL REMOVAL

Introduction

Urethral diverticulum is a relatively rare disorder in women with a prevalence of 1 to 5% (1). It is thought to be an acquired condition, resulting from enlargement of obstructed periurethral glands which manifests as a localized outpouching of the urethra into the anterior vaginal wall. Diverticulae are classified as simple or complex. The latter include multiple diverticulae, those involving the urethral sphincter or bladder neck, horseshoe and saddle-shaped diverticulae (when the diverticular sac partially or circumferentially surrounds the urethra) (2). We present a case of a complex urethral diverticulum, including its clinical presentation, diagnostic work-up, conservative and surgical management.

Design

A 58-year-old otherwise healthy woman was admitted to our department for severe dysuria, urinary frequency and urgency and a painful vaginal bulge for the last several weeks. On physical examination, a 4-cm tender cystic mass was noted at the midline of her anterior vaginal wall at the level of the middle and distal thirds of her urethra. Compression of this mass resulted in expulsion of pus through the urethral meatus. Transvaginal sonography and magnetic resonance imaging demonstrated two overlapping cystic masses of 2 X 2 cm adjacent to the middle and distal urethra, consistent with a complex urethral diverticulum. Urethroscopy demonstrated a 2-mm diverticular orifice located about 2 cm proximal to the urethral meatus. The patient received intravenous broad spectrum antibiotic treatment for several days followed by a course of oral antibiotics with marked clinical improvement. She was seen at our outpatient clinic two months later complaining of a recurrent painful vaginal bulge. On physical examination, a 4-cm tender diverticulum was still noted, and the patient was consulted regarding its surgical removal. The surgical procedure commenced with a vertical incision made at the vaginal epithelium and the endopelvic connective tissue surrounding the diverticulum was dissected away from it. The diverticular sac was opened and its content was evacuated. It was peeled off of the surrounding connective tissue and removed. A 4-mm defect was noted in the urethral sidewall and was meticulously closed and covered by three layers of endopelvic connective tissue, using circumferential non-overlapping sutures. Cysto-urethroscopy demonstrated an intact, water-tight urethral suture line.

Results

Postoperatively, the patient received broad-spectrum intravenous antibiotic treatment for three days followed by an oral antibiotic course for seven days, and an indwelling Foley catheter was left for two weeks. On her follow-up visit three weeks later she was asymptomatic and her physical examination revealed good healing and no urinary
Leakage.

Conclusion

This is a relatively rare case of a large complex double-compartment urethral diverticulum demonstrating its clinical presentation, diagnostic work-up as well as conservative and surgical management. The importance of broad spectrum antibiotic treatment pre – and postoperatively should be emphasized, as it probably reduces the risk for complications such as wound infection, urethrovaginal fistula and abscess formation (3). The accompanying video demonstrates the surgical principles for the excision of such a diverticulum, including meticulous dissection and mobilization of the surrounding connective tissue, as well as closure of the latter in several layers using non-overlapping water-tight suture lines.

References

1. El-Nashar SA. et al. Int Urogynecol J. 2014
2. Rovner ES. et al. J Urol. 2003
3. Ljungqvist L. et al. J Urol. 2007

Disclosures

Funding: NONE **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** FOR VIDEO PRESENTATION, ONLY INFORMED CONCENT WAS OBTAINED **Helsinki:** Yes **Informed Consent:** Yes