

Clinical Contribution for Female Suburethral Diverticulum: A Case Report and Review of the Literature

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ABSTRACT

Background: Female urethral diverticulum (UD) is a rare entity that deserves early diagnosis to avoid the morbidity and, above all, complications associated with surgery. It is essential to think about it when faced with recurrent urinary disorders. Clinical examination can establish the diagnosis of diverticulum in 66% to 90% of cases.

Case Presentation: We present a case of urethral diverticulum in a 48-year-old woman who had been dysuric for 6 years, and discuss the role of clinical examination in the diagnosis, surgical management and associated complications. It was complex, proximal in location and long-standing. Its late clinical discovery was confirmed radiologically by MRI. Intravaginal surgery was chosen, with no complications or recurrences reported in the past year.

Conclusion: The role of the clinic in the diagnosis of UD remains paramount, especially in cases of recurrent urinary disorders. It reduces the burden of morbidity associated with late management.

Introduction

The UD is a relatively rare disease with a prevalence ranging from 1 % to 6 % worldwide [1]. However, this prevalence does not reflect the real frequency of these diverticula which are often overlooked due to their clinical polymorphism; classically symptomatic clinical cases are very rare [2]. Thus, early suspicion of the disease is the first step in diagnosis, minimizing the complications resulting from late surgical management.

We report a case of complex urethral diverticulum of proximal site, clinically insidious and late diagnosis in a 48-year-old woman, and discuss the diagnostic issues, classification, management and complications of this rare entity through the literature.

Case Presentation

A 48-year-old woman presented with recurrent urinary disorders evolving for 6 years, consisting of dysuria and urinary incontinence. She had reported in her history recurrent urinary tract infections and two caesarean sections. She reported being treated with no noticeable improvement. Examination revealed a

palpable mass at the expense of the urinary tract, with no fistulous path. The diverticulum, in the form of a posterior urethral pouch, was confirmed on MRI and retrograde uretrocystography (Figures 1-2). In the operating room, the patient was placed in the gynecological position after general anesthesia. Cystourethroscopy revealed a diverticulum in the proximal margin, located 2 centimeters from the urethral meatus, and a 16 Fr Foley catheter was placed in the urethra. Intravaginally, the diverticular sac was dissected and resected in the direction of the urethra. The neck of the diverticulum was closed with a 3/0 vicryl suture. The vaginal mucosa was sutured with vicryl 2/0 (Figure 3). Histological analysis revealed inflammatory signs with no evidence of malignancy. Post-operative course was normal.

Discussion

Given the diversity of clinical and non-specific presentations of the UD, a high index of suspicion is the first diagnostic step to ensure prompt treatment and avoid complications resulting from late management. Symptomatic UD are rarely found, with an estimated incidence of less than 0.02 % [2]. The classic triad of

diverticular manifestations represented by the 3 Ds (dysuria, dyspareunia, drop incontinence) is present in only 20 % of cases; drop incontinence after urination appears in 60 to 70 % of cases and more than 80 % of women consult for periurethral masses [1]. In view of the above, a thorough clinical examination of all urinary symptoms, however trivial, is essential.

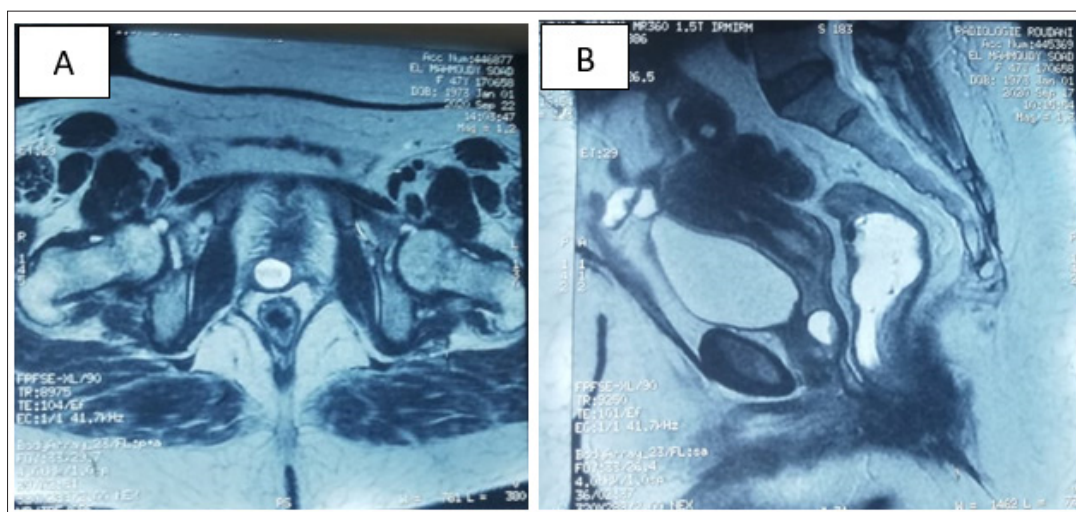


Figure 1: MRI images, coronal (A) and sagittal (B) sections, the diverticulum appears as a lesion in hypersignal in a T2-weighted sequence

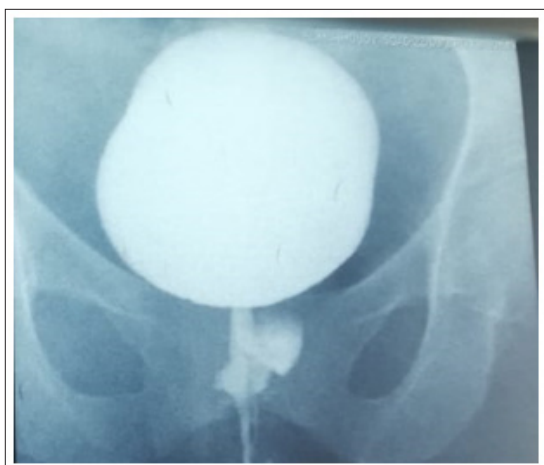


Figure 2: Retrograde urethrocytography image and voiding showing a suburethral pouch

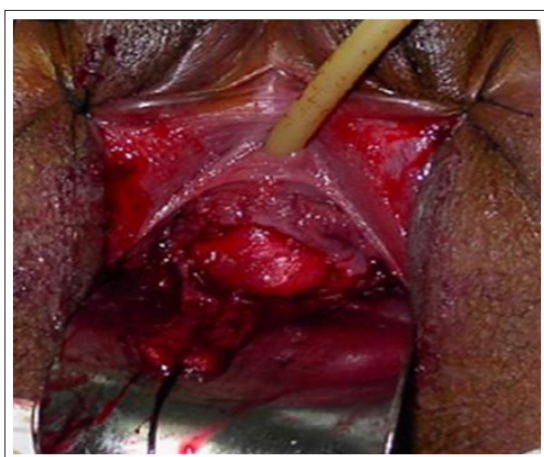


Figure 3: Exposure of the urethral diverticulum in the operating room

The preferred age for diverticula is usually between 30 and 60 [3]. Our 48-year-old patient meets the standards of the literature. UD was reported in 20 % of cases with history of urethral surgery or traumatic delivery versus 31 % of nulliparas [4]. The UD corresponds to a herniation of the urethral mucosa by a muscular defect of the urethral wall. Infection of the periurethral glands is thought to result in the formation of sub-urethral cysts, which are often abscessed and communicate with the urethra through an epithelial cavity [4].

Imaging is essential to assess the size, location, shape, complexity of the UD and specially to plan the direction of treatment. Currently, the gold standard for diagnosing a UD is MRI, which hones the anatomy for the ultimate surgical intervention. It eliminates an associated pathology such as adenocarcinoma by analyzing in detail the wall of the diverticulum.

It is currently accepted that the manifestation of a diverticulum requires its treatment, especially if it measures more than 1 centimeter in diameter or if it is associated with symptoms of the lower urinary tract [4]. Thus, a classification system for diverticula (L/N/S classification, C3) was proposed by Leach to facilitate the preoperative description of lesions [5]. This is based on clinical examination, urethrocytography, voiding cystography and urodynamic examination. Our patient had dysuria on a single diverticulum located 2 centimeters from the meatus. Surgical management is the treatment of choice for large and/or symptomatic UD [2]. Conservative methods are reserved for a minority (close follow-up, post-voiding digital compression, prophylactic antibiotic therapy and needle aspiration) [1]. In modern practice, the lithotomy position is the most used [4]. It is adequate for the distal and simple UD; on the other hand, it is replaced by the supine position for circumferential or large-diameter UD for which access can often be sub-optimal [2]. Only complete excision of the diverticulum allows healing with a low rate of complications. Malignant tumors are rarely reported and anterior pelvicotomy with urethrocytectomy associated with

Bricker-type urinary diversion or continent diversion is the recommended management in these cases.

In a review of the literature on 872 patients treated surgically for a urethral diverticulum, Leach highlighted a rate of urethro-vaginal fistulas between 1 and 8 %, a recurrence rate of the diverticulum (1-25 %), a rate of stress urinary incontinence (1-16 %), a rate of urethral stricture (0-5 %) and a rate of recurrent urinary tract infections of 0 to 30 % [5]. The main complications of this surgery are singularly recurrence, dyspareunia, incontinence, urethral stricture and the development of fistulas [4]. Certain characteristics qualify the UD as complex: proximal site, large diameter greater than 3 centimeters, history of urethral surgery, horseshoe shape or circumferential and presence of multiple diverticula. These factors are in favor of the recurrence of UD, except for the localized form [1]. Our patient presented with a 2 centimeters proximal diverticulum. The weakening of the anatomical support of the urethra and the bladder or damage to the urethral sphincter mechanism during diverticulectomy are involved in the new genesis of urinary incontinence [1]. Recurrent urinary tract infections are observed in a third of patients, probably due to urinary stasis [4].

Conclusion

The clinical polymorphism, sometimes as specific or asymptomatic, makes the famous female urethral diverticulum as unknown as it is rare. Its pathophysiology remains poorly understood. The gold standard of its discovery is the strong clinical suspicion with complement of the radiological assessment, in this case the MRI. Transvaginal diverticulectomy is the surgical option of choice. The surgeon's obsession is to minimize postoperative complications.

Consent

The patient freely consented to the publication of the case.

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Conflict of Interest Statement

None declared.

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