



Oncology

Clear cell carcinoma in a urethral diverticulum

Emer Hatem, Arun Sahai, Sachin Malde*

Department of Urology, Guy's and St Thomas' NHS Foundation Trust, London, UK



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ABSTRACT

A 54-year-old female presented with a long history of multi-drug-resistant urinary tract infections, urinary urgency and frequency, haematuria, stress urinary incontinence and difficulty voiding. Examination revealed a large, hard anterior vaginal wall mass with purulent discharge. Investigation with MRI demonstrated a complex urethral diverticulum containing stones with fistulation into the vagina. Drainage of the abscess and excision biopsy of the diverticulum revealed clear cell carcinoma. She therefore underwent completion urethrectomy, bladder neck closure and Yang-Monti urinary diversion – a positive tumour margin led to resultant cystectomy and ileal conduit.

Introduction

Urethral diverticula (UD) are an uncommon finding, and carcinoma of a diverticulum even less seen. Both a UD and UD carcinoma often present with non-specific urinary symptoms, making diagnosis challenging.

Herein we describe a case of UD carcinoma in a patient managed in our tertiary referral centre.

Case presentation

A 54 year-old female was referred to her local urology service complaining of longstanding recurrent urinary tract infections alongside a myriad of urinary symptoms including urgency, frequency, haematuria, stress incontinence and poor voiding. She also reported occasional dyspareunia and vaginal bleeding. Examination revealed a hard mass on the anterior vaginal wall, with purulent discharge on palpation. Initial imaging locally revealed a urethral diverticulum. This was further characterised on MRI at our tertiary centre as a large, complex diverticulum containing stones, with pus collection and fistulation into the vagina (Fig. 1, Fig. 2).

She underwent urgent incision and drainage of the collection, and histology of the diverticular wall indicated chronic inflammation with features suspicious for malignancy. After initial assessment locally, a second pathological opinion was sought due to complexity, which ultimately diagnosed clear cell carcinoma.

She subsequently underwent robotic-assisted urethrectomy and bladder neck excision with Yang-Monti urinary diversion. She had a 24-

h postoperative critical care admission, and was discharged on post-operative day thirteen. Histology revealed a positive tumour margin of 1cm at the bladder neck, resulting in cystectomy and ileal conduit formation.

Discussion

Urethral diverticulae (UD) are uncommon, and a diagnostic challenge, given the spectrum of non-specific urinary symptoms they may present with. Although a 'classical triad' of dysuria, dyspareunia and post-void dribbling has been described, many present with less specific complaints.¹ They are more common in women, with an incidence of 0.02–6% in the female population. Diagnosis is best achieved by a combination of history and clinical examination, T2 pelvic Magnetic Resonance Imaging (MRI) and Videocystometrogram.²

Although mostly benign, there is potential for malignant change. Primary urethral carcinoma represents just 0.02% of female malignancies, and UD carcinoma a small proportion of these, resulting in limited cases in the literature.³ UD cancers are predominantly glandular (i.e. adenocarcinoma), however, squamous cell carcinoma and transitional cell carcinoma are less frequently seen. The pathogenesis of UD cancer is unclear but possible theories include; para-urethral (skene) gland changes due to chronic infection/obstruction, metaplasia, and malignant change in retained mesonephric duct remnants.² In the presence of severe infection and stones, radiological assessment of malignant features may be difficult, and urgent biopsy is therefore recommended.

* Corresponding author.

E-mail address: sachin.malde@gstt.nhs.uk (S. Malde).<https://doi.org/10.1016/j.eucr.2020.101164>

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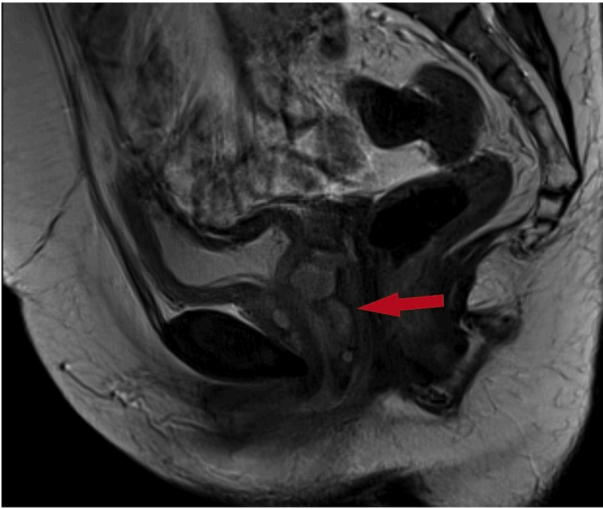


Fig. 1. Large, multiloculated urethral diverticulum (red arrow) with fistulation into the anterior vaginal wall.

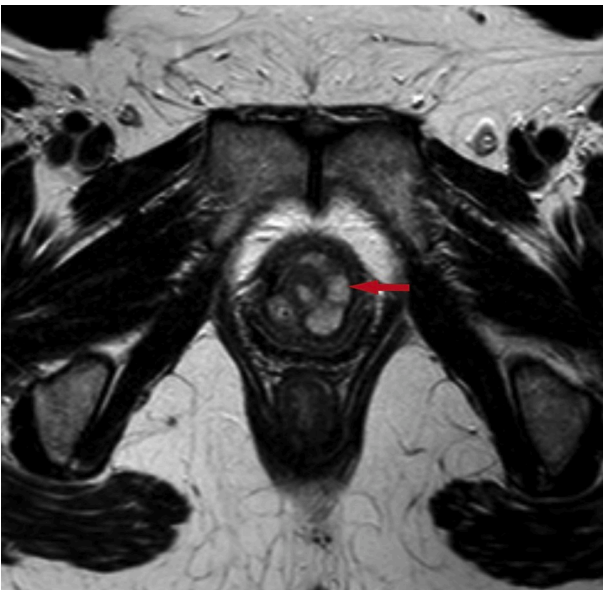


Fig. 2. Axial MRI showing circumferential urethral diverticulum (red arrow).

Conclusions

Our case clearly demonstrates the varied symptoms a UD may

present with, and how this makes diagnosis challenging. Prognoses of UD carcinoma are poor⁴; early diagnosis is important to achieve optimum outcomes.

Declaration of competing interest

None.

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