Case Study of the Month

Case of Duplication of the Urethra in an Adult Male, Presenting with Symptoms of Bladder Outlet Obstruction

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1. Introduction

Urethral duplication is an extremely rare, yet very well-defined, congenital malformation, with about 150 cases described in the specialised literature [1,2]. The most widely accepted classification of the different types of urethral duplication was developed by Effman et al [3] (Fig. 1). The embryology, aetiology, and pathogenesis of the urethral duplication are obscure. Many theories have been proposed for explaining this unusual condition, including maternal hormonal disorders, environmental factors, and medications. However, many of the cases are idiopathic, so the authors agree that a universal aetiology, applicable to all cases of urethral duplication, does not exist [4]. The latter is supported by the observed wide variations in the anatomy among the patients.

2. Case history

The patient is a 58-yr-old Caucasian man complaining of dysuria, frequency, and recurring urinary tract infections. These complaints had started 3 yr previously, and the patient was hospitalised three times during the period. During these hospitalisations urethrocystoscopy with subsequent internal optical urethrotomy of short strictures in his penile urethra were performed, followed by antibacterial treatment. The diagnosis of urethral duplication had not been established at that time. Two months ago, complete urinary retention occurred, with impossibility for urethral catheterisation, and a suprapubic urinary catheter was necessary. After admission into our clinic, a retrograde urethrography was performed, which revealed complete duplication of the urethra in the
coronal plane, starting from the bladder and reaching the penile urethra (class II B according to the classification of Effman; Fig. 2). The intravenous urogram of the upper urinary tract and the bladder was unremarkable. The patient underwent an operative procedure; through a midline perineal incision, the two separate channels were liberated from the surrounding tissues along their entire length (Fig. 3). The major urethral channel was found with wider lumen, but with less developed spongiosis, whereas the more eccentrically situated channel, branching immediately proximal to fossa navicularis, was hypoplastic for 5–6 cm, without spongiotic tissue, and then continued in fully developed urethral bulbus with strong, well-defined spongiosis. Our intraoperative approach was dictated by this unusual configuration and the presence of strictures with spongiofibrosis in the major urethral channel, resulting from the previous transurethral manipulations. The two urethras were incised longitudinally along their lateral side, and side-to-side anastomosis of the two detubularised urethras was performed, using 5-0 interrupted absorbable sutures (Fig. 4). A 16F silicone Foley catheter was left indwelling for 21 d. After the catheter was removed, the patient urinated spontaneously, with good stream, and without
that both channels were lined with transitional cell epithelium.

Urethral duplication is quite rare but is a very distinct entity in human pathology. It affects almost exclusively children and adolescents, and its finding in an adult man imposed serious diagnostic difficulties. We have chosen an unusual operative technique, creating a common urethral channel with a side-to-side anastomosis. The observed short-term results in this patient were very good.

EU-ACME question

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Question:

All of the following statements regarding urethral duplication are true EXCEPT:

A. Urethral duplications are observed almost exclusively in children and adolescents.

B. Cases of urethral duplication usually present with incontinence, perineal discomfort, fever, perineal mass, and eccentric opening of the ventral urethra.

C. The common therapeutic approach is to excise the dorsal urethra, because, as a rule, the ventral urethra is more functional, regardless of localisation of its meatus.

D. Most duplications occur in the coronal plane; that is, they are situated side-by-side of one another.

References


