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GENERAL UROLOGY

Case Report

Congenital anterior urethral diverticulum

Konjenital anterior üretral divertikül

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ABSTRACT

Congenital anterior urethral diverticulum (CAUD) may be found all along the anterior urethra and may present itself at any age, from infant to adult. Most children with this condition present with difficulty in initiating micturition, dribbling of urine, poor urinary stream, or urinary tract infection. A careful history will reveal that these children never had a good urinary stream since birth, and the telltale sign is a cystic swelling of the penile urethra. In this paper, we present two cases of CAUD that were managed by excision of the diverticulum with primary repair.

Key words: Anterior urethral valve; congenital urethral diverticulum; cystic swelling.

ÖZET

Konjenital anterior üretral divertikül (KAUD) tüm anterior üretra boyunca bulunabilir ve bebekten yetişkine kadar her yaşta kendini gösterebilir. Bu durumdaki çocukların çoğu işemeye başlamada zorluk, idrar damlatma, zayıf idrar akımı veya idrar yolu enfeksiyonu ile gelir. Dikkatli bir öykü bu çocukların doğumdan beri hiç iyi bir idrar akışına sahip olmadığını ortaya koyacaktır ve penil üretranın kistik şişmesi durumu açığa çıkaran bir bulgudur. Bu yazıda, primer onarımla divertikülün eksizyonu ile tedavi edilen iki KAUD olgusu sunmaktayız.

Anahtar kelimeler: Anterior üretral valv; konjenital üretral divertikül; kistik şişlik.

Introduction

Anterior urethral valves (AUVs) are rare congenital anomalies causing lower urinary tract obstruction in children. Although they are referred to as valves, these obstructive structures often occur in the form of a diverticulum. The urethra in these cases shows a saccular or bulbar dilatation known as an anterior urethral diverticulum (AUD).[1]

Case presentations

Case 1

A 22-year-old male presented with complaints of poor urinary stream and a swelling on the ventral aspect of the penile urethra. Swelling was soft, cystic, fluctuant, and compressible, and it collapsed completely on manual pressure, with urine coming out per urethra. Urine analysis, routine blood counts, blood urea, and serum creatinine were normal. Ultrasonography (USG) showed a normal size and shape of both kidneys and a normal urinary bladder. A micturating urethrogram (MCU) was performed, and it showed the presence of a wide-mouthed diverticulum at the penoscrotal junction and normal urinary bladder without any vesicoureteric reflux. The patient was managed by open procedure. The diverticulum was opened by incision on the ventral aspect of the penile shaft and the redundant diverticular wall was repaired by plication. Postoperative recovery was uneventful.

Case 2

A 10-year-old male child presented with poor urinary stream and a cystic swelling at the penoscrotal junction. On investigation, USG of the abdomen revealed bilateral upper tract changes and a thick-walled urinary bladder. Micturating urethrogram showed anterior urethral diverticulum at the penoscrotal junction. His serum creatinine was 1.7 mg/dL. Suprapubic cystostomy was performed, and his serum creatinine decreased to 0.8 mg/dL. Subsequently, the patient was managed by open diverticulectomy along with plication of the redundant diverticular wall. In the postoperative period, the patient had normal urination without any swelling in the penile urethra and is monitored by regular follow-up.

Discussion

Congenital Anterior Urethral Diverticulum may be found all along the anterior urethra

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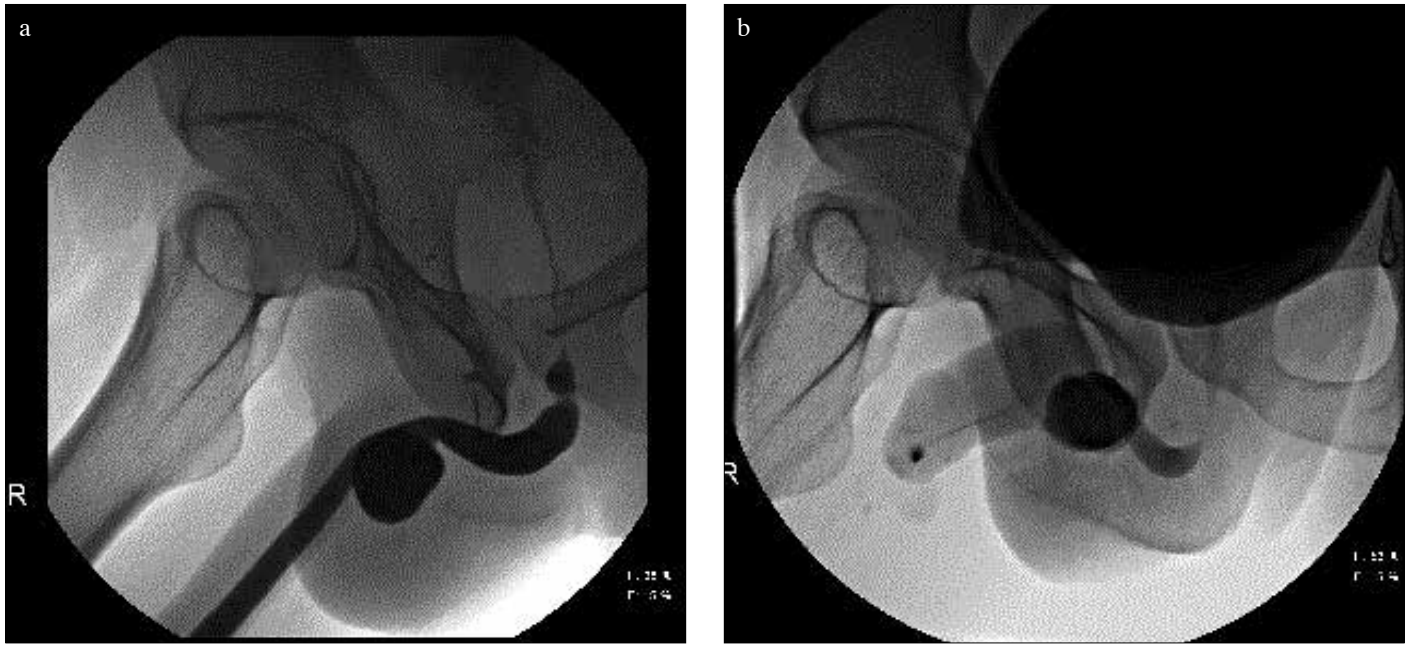

Figure 1. a, b. (a) RGU showing an anterior urethral diverticulum (b) MCU showing an anterior urethral diverticulum
RGU: retrograde urethrogram; MCU: micturating urethrogram

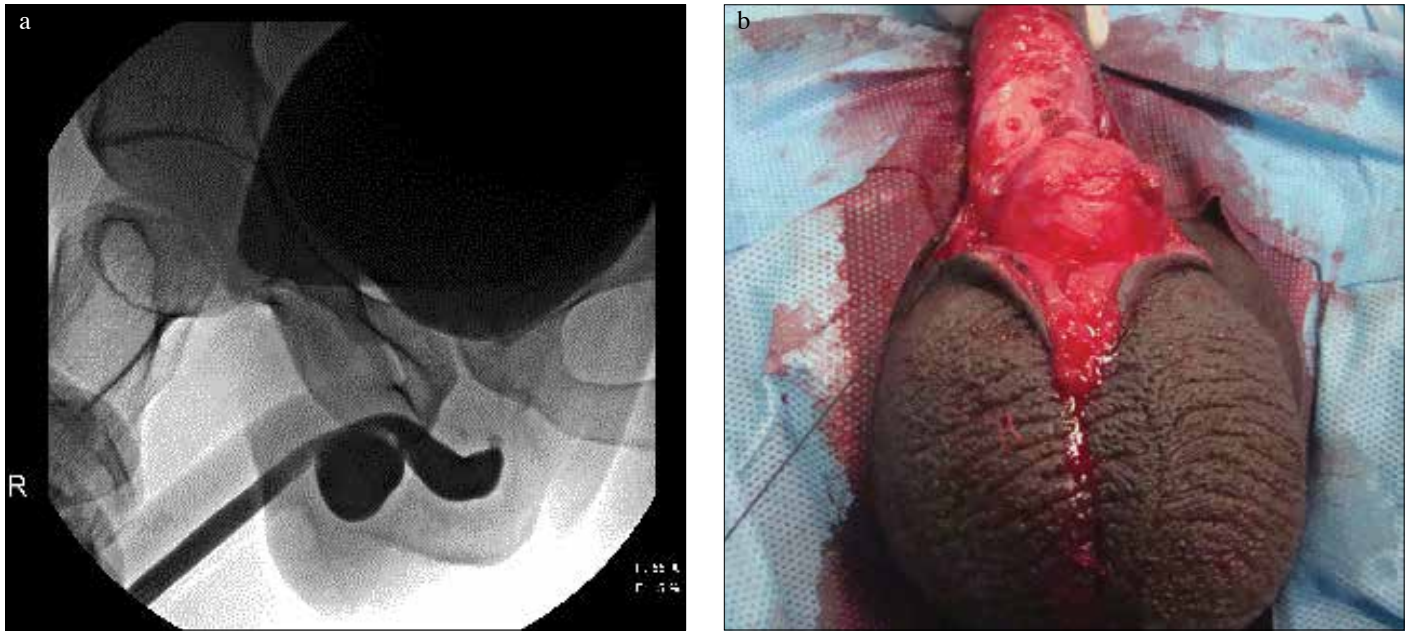

Figure 2. a, b. (a) Combined RGU with MCU showing an anterior urethral diverticulum (b) Diverticulum at the penoscrotal junction
RGU: retrograde urethrogram; MCU: micturating urethrogram

but is usually located between the bulbous and the midpenile urethra. The embryology remains unclear. Various hypotheses include a developmental defect of the corpus spongiosum, cystic dilatation of the urethral glands, and sequestration of an epithelial nest after closure of the urethral folds. A urethral dilatation in this region, in the absence of a corpus spongiosum, may develop into a diverticulum.[1]

Congenital Anterior Urethral Diverticulum may present itself at any age, from infant to adult. Most children with this condition present with difficulty in initiating micturition, dribbling of urine, poor urinary stream, or urinary tract infection. A careful history will reveal that these children never had a good urinary stream since birth, and the telltale sign is a cystic swelling at the penile urethra.[2] On compression, urine is

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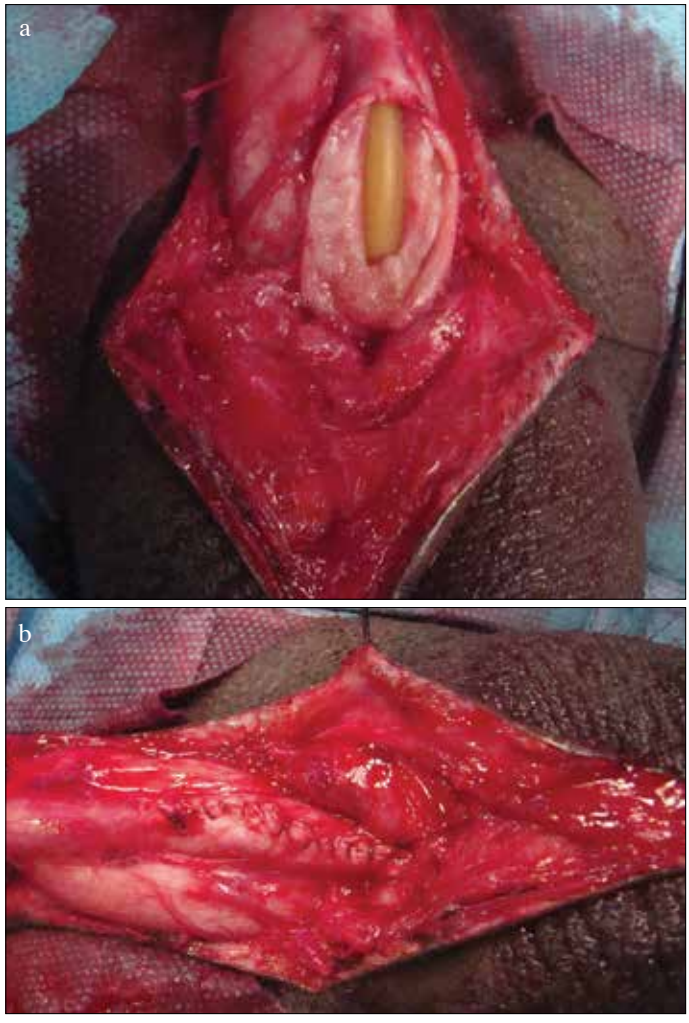

Figure 3. a, b. (a) Diverticulum after excision of the diverticular wall. (b) Diverticulum after repair

seen dribbling out of the external meatus, and the swelling is seen to deflate.

Diagnosis is usually made by MCUG or retrograde urethrogram. MCUG has the additional advantage of demonstrating proximal changes such as megacystis, VUR, or other associated anomalies. USG complements the contrast studies to diagnose the condition and offers the additional advantage of evaluating the upper tracts as well. Moreover, voiding USG has been found to be an alternative to the contrast studies in making a diagnosis of AUD.[3] Cystourethroscopy is diagnostic as well as therapeutic. A diverticulum typically appears as an outpouching from the ventral wall of the urethra and has a proximal and distal rim.[4] Treatment of AUD depends on the size of the diverticulum and the degree of obstruction. Transurethral resection (TUR) with a pediatric resectoscope is the treatment of choice for small, well-supported diverticula wherein the distal obstructing lip is resected.[4] However, in the large diverticula, as in our cases, open diverticulectomy and primary repair is recommended.
We have used the technique of plication of the redundant diverticular wall with good results.[5] In situations where there are back pressure changes of upper tracts with deranged renal function, urinary diversion, either by marsupialization of the diverticulum or even suprapubic cystostomy/vesicostomy, is a safer option.[6,7] However, the prognosis depends on the status of the upper tracts, as in our second case.

Informed Consent: Written informed consent was obtained from the parents of the patients who participated in this case.

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