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Case Report

Urethral polyps in children: A review of the literature and report of two cases

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Abstract A solitary polyp of the urethra is a rare benign fibroepithelial growth and has often been described in boys. Its occurrence in girls is exceptional. In the present paper, two children with solitary polyps of the urethra are presented and discussed. The first case was an 18-month-old boy with a posterior urethral polyp arising from the posterior urethra and extending to the bladder. It was excised by cystostomy because of an unsuccessful endoscopic removal attempt. The second case was a 2-year-old girl with an interlabial mass arising from the posterior wall of urethra and protruding from the external urethral meatus. It was excised transurethrally.

Key words children, fibroepithelial polyp, urethra.

Introduction

Solitary polyps of the posterior urethra are rare benign fibroepithelial growths and often have been described in boys.[1–3] Their occurrence in girls is exceptional.[4] Solitary polyps are called different names, such as prostatic urethral polyps, fibroepithelial polyps of the urethra (FEP) or benign urethral polyps of the urethra. The posterior urethra is the predominant location. We report two cases of children with FEP of the urethra and discuss the related literature.

Case reports

Case 1

An 18-month-old boy presented with hematuria for 3 days. Clinical examination revealed no abnormalities. Laboratory assessments were unremarkable, except for 4–5 red blood cells on urine analysis. Cystourethrography (VCUG) revealed normal findings and ultrasonography (USG) showed a round, mobile mass, 22×9 mm in size at the bladder. Computerized tomography (CT) revealed a mass extending from the bladder neck into the bladder (Fig. 1). Cystourethroscopy confirmed the presence of a posterior urethral polyp extending from posterior urethra into the bladder. An attempt to remove it endoscopically was unsuccessful, because the polyp had a smooth surface, a tense wall and was floating in the bladder. Therefore, it was excised by cystostomy.

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Histopathology showed the lesion to be a benign fibroepithelial polyp covered by transitional epithelium with focal areas of hyperplasia and squamous metaplasia. Under the epithelium, there was edematous lamina propria exhibiting thick-walled vessels and smooth muscle cells (Fig. 2a). The boy was discharged after an uneventful postoperative course.

Case 2

A 2-year-old girl presented with an asymptomatic interlabial mass that had gradually enlarged since birth. The mass arose from the posterior wall of the anterior urethra and protruded out of the external urethral meatus (Fig. 3). Laboratory findings, imaging studies (USG, VCUG) and cystoscopy were normal. A polypoid mass, $20 \times 8 \times 8$ mm in size and with a smooth surface was excised after ligation of its stalk. Histopathology confirmed a FEP covered by transitional epithelium (Fig. 2b). The patient was managed as an outpatient and remained well at 1-month follow-up.

Discussion

Urinary polyps have been described from the middle calices of the kidney to the anterior urethra. Polyps derived from the lower urinary tract are not as frequent when compared with those derived from the upper urinary tract.[3] Therefore, these have rarely been reported. Based on the current literature, FEP can occur in newborns and adults older than 70 years, but is more common in adults of 30–50 years of age. The FEP located in the lower part of the urinary tract usually occur in the posterior urethra and more often in children than in adults. Gleason *et al*. reported the findings of 16 children with urinary polyps treated during a 35-year period, with 12 (75%) located at

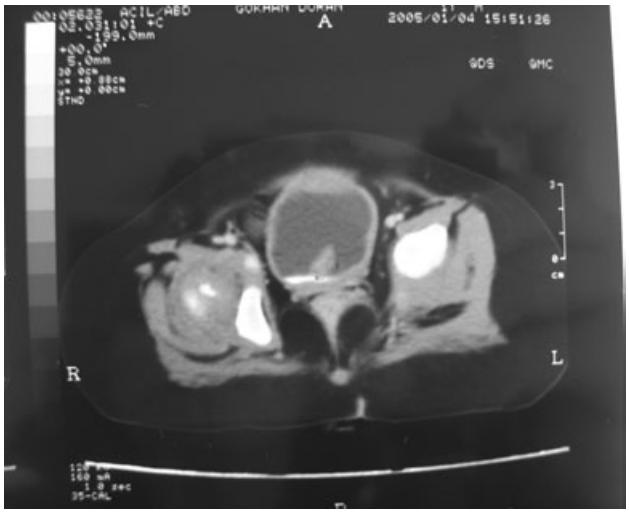

Fig. 1 Polypoid 22 × 9 mm mass arising from the bladder base.

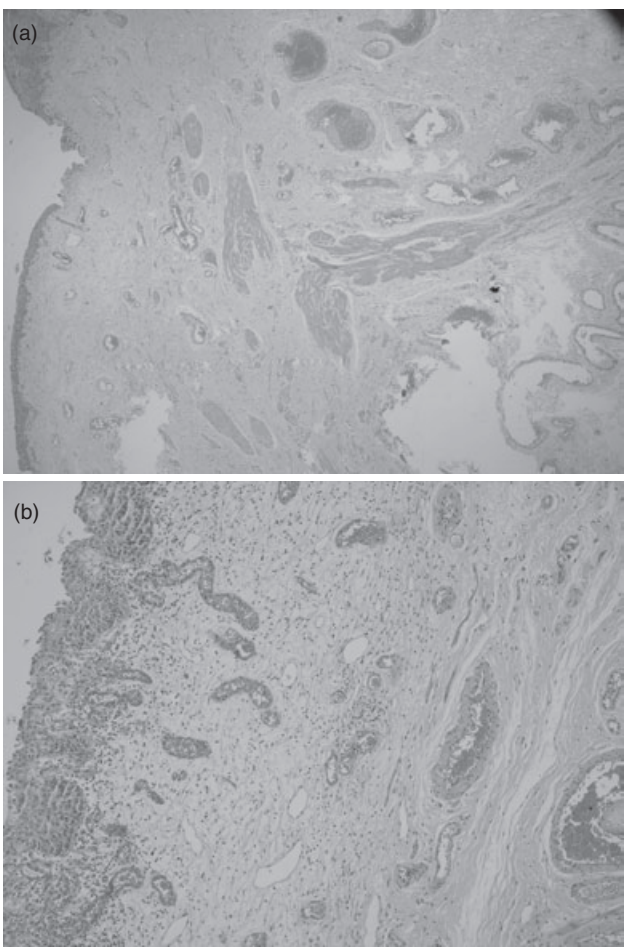

Fig. 2 Histopathologic appearance of polyp in (a) case 1 and (b) case 2 .

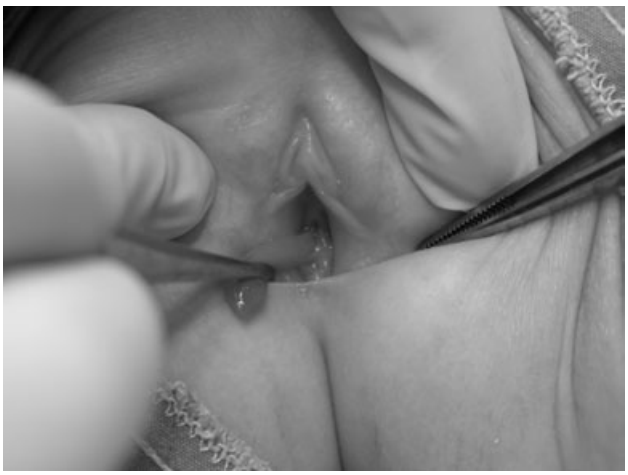

Fig. 3 Interlabial mass arising from the urethra in case 2.

the urethra.[1] An anterior urethral location of polyps is very rare.[5]

The localization, frequency and presentation of FEP are different in girls and boys, with FEP scarcely occurring in girls. To date, only six girls with urethral polyp have been reported in the English literature, all of them presented as interlabial masses diagnosed by clinical examination only.[4] Various lesions, including prolapsed ectopic ureterocele, urethral prolapse, paraurethral cyst, hydrometrocolpos, and tumors, such as rhabdomyosarcoma, can present as an interlabial mass in young girls.

The etiology is still controversial. Congenital, irritative, infectious, obstructive and traumatic causes have been proposed.[6] The presence of a large polyps in healthy newborns and infants is a strong argument in favor of a congenital origin. Downs is in favor of a protrusion from the wall of the posterior urethra.[6] Kuppusami and Moors underline the possible connections between the metaplastic epithelium sometimes present in the polyp with maternal estrogen during pregnancy.[7]

Findings due to intermittent or acute obstruction of bladder outlet, such as hesitancy, diminished urinary stream, incomplete emptying and urinary retention, are the main symptoms.[1–3] Hematuria is another common symptom, with a reported incidence of 30–60%.[1,2] Dysuria appearing frequently is often associated with urinary tract infections and hematuria.[2] De Castro *et al*. reported a series in which 17 cases had been treated during a 16-year period.[2] Fourteen out of the 17 cases were symptomatic and three were detected incidentally. Dysuria 52%,[8] hematuria 41%,[7] voiding complaints (dribbling, low stream, prolonged or interrupted micturition and abdominal straining), urinary tract infections, urinary retention, enuresis, urge incontinence are symptoms of urethral polyps.[2] VCUG were diagnostic in 70% (12/17) of the patients.[2] Case 1 was admitted with hematuria and there was no sign of polyps detectable on VCUG.

The VCUG and USG examinations aid to diagnose the polyps, but endoscopic examination is necessary to confirm and to excise the lesion.[2,9] Because of the overlap in clinical presentation and radiological findings, it becomes

a diagnostic challenge to distinguish a fibroepithelial polyp from a blood clot, radiolucent calculi or neoplasm.[9] Additionally, CT and urine cytology can be evaluated for calculi and for malignancy, respectively.[9]

With the development of pediatric endoscopic equipment, transurethral resection of a urethral polyp has become the treatment of a choice. Endoscopic resection using electrocautery or laser energy is usually successful and open cystotomy is rarely required.[2,8,9] However, some polyps are unsuitable for endoscopic removal because of their smooth surface and tense structure. Excision by cystostomy could be an acceptable alternative in these cases.[1,2,10] Because the polyp in case 1 had a smooth surface, tense wall and was floating in the bladder, we preferred open surgery rather than transurethral endoscopic removal.

Histopathologically, FEP consists of an axis of connective tissue and vessels covered by transitional epithelium and areas of squamous metaplasia or ulcerations can sometimes be found. The stroma is the most variable element and is often enriched with various components, such as vascular formations with angiomatous features, smooth muscular fibers, nerves, glands, pseudoglandular structures and inflammatory infiltrates.[2] There was squamous metaplasia in case 1 and inflammatory infiltration in case 2. It was reported that 50% of the patients with urethral polyps have another urinary pathology, especially vesicoureteral reflux (VUR).[2]

If the polyp causes an obstruction and possibly interferes with the bladder outlet, it could be a secondary cause in developing or maintaining VUR.[2] Associated upper urinary tract dilation, reflux and diverticulum of bladder may resolve spontaneously by the excision of the polyp.[1,2]

Biologic activity of FEP is uniformly benign and there have not been any reported recurrences if they have been excised completely. Patients were asymptomatic after 6 months postoperatively.

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