Original Study

Congenital Urethral Polyps in Girls: As a Differential Diagnosis of Interlabial Masses

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A B S T R A C T

Study Objective: To present the clinical appearance, differential diagnosis, long-term follow-up, and the surgical result of single-center experience with female urethral polyps presenting as an interlabial mass, and to report the common causes of interlabial masses in infants.
Design: All 12 girls who presented with an interlabial mass and intermittent bleeding have been included in this study; however, the benign urethral polyps are discussed in detail and are the subject of this study.
Setting: All patients were referred to our national referral pediatric urology center with initial impression of vaginal bleeding; however, rhabdomyosarcoma of bladder and urethra (n = 2) or vagina (n = 3) and urethral polyp (n = 7) was the final diagnosis.
Participants: The records of 12 girls who presented with external genitalia bleeding were retrospectively reviewed. Among them, 7 had fibroepithelial polyps and underwent initial polypectomy between 2001 and 2011with mean age of 21.5 months (range: 1-90 mo). All girls underwent endoscopic surgical removal of polyps.
Main Outcome Measures: No postoperative polyp recurrence was observed following endoscopic polyp resection.
Results: The postoperative period was uneventful except in 1 girl who had immediate postoperative urethral bleeding which stopped spontaneously. There was no major complication or polyp recurrence after operation during the long-term follow-up.
Conclusions: The interlabial mass must be considered as a urethral polyp and should be differentiated from the vaginal rhabdomyosarcoma with protrusion of vaginal tumor from the vaginal outlet or other benign lesions. Physical examination in frog legged position or examination under anesthesia with urethrocystoscopy may confirm the final diagnosis.
Key Words: Interlabial, Urethra, Polyps, Fibroepithelial, Congenital, Female, Vagina

Introduction

Urethral polyp is not rare in boys; however, it is scarcely reported in girls in the English literature. Twelve cases of urethral polyp were reported in prepubertal girls up to 2007.[1,2] The most common presentation of urethral polyp in girls is an interlabial mass[1,3] and external genitalia bloody discharge (sometime mistaken for vaginal bleeding).[3-6] Other symptoms such as vulvitis, urinary tract infection (UTI), and urinary retention have been reported in some cases.[3,6] An interlabial mass in a young female can have multiple differential diagnoses including prolapsed ectopic ureterocele, prolapsed urethral mucosa, paraurethral cyst, hydrometrocolpos or rhabdomyosarcoma of vagina,[6] and botryoid rhabdomyosarcoma of the bladder protruding through the urethra.[7] Urethral polyp in young girls is considered as an equivalent to caruncles in adult females, which are red tender polypoid masses protruding from the urethra meatus.[5,6] It has been reported that urethral polyps in prepubertal girls can be found in any parts of the urethra (distal, mid, or proximal), however, in boys these are mostly found in the prostatic urethra.[6] The histopathology of the urethral polyp in girls is benign fibroepithelial polyp (FEP) and it presents rarely as inverted papilloma.[3,5,6,8] The FEPs are usually diagnosed during the first decade of life.[9] These lesions have been surgically removed and no further complications or recurrence has been reported.

In this study, we examine 7 cases of urethral polyp in girls, including their presenting symptoms, management, and long-term follow-up as well as a literature review.

Materials and Methods

Patients

From July 2001 to November 2011, 12 girls were referred to our national referral pediatric urology center at the pediatric center of excellence with different presentations and various initial diagnoses. All of the patients were referred for intermittent gross hematuria or vaginal/urethral bleeding and voiding symptoms such as dysuria (n = 2), painful voiding (n = 2) or UTI (n = 2). Physical examinations showed polypoid lesion measuring approximately 15-40 mm from the urethral meatus (Fig. 1, *A*, *B*). The preliminary diagnoses in the district hospital was vaginal bleeding (n = 4), vaginal tumor (n = 3), urinary retention (n = 2) and interlabial mass (n = 5). All patients with small urethral

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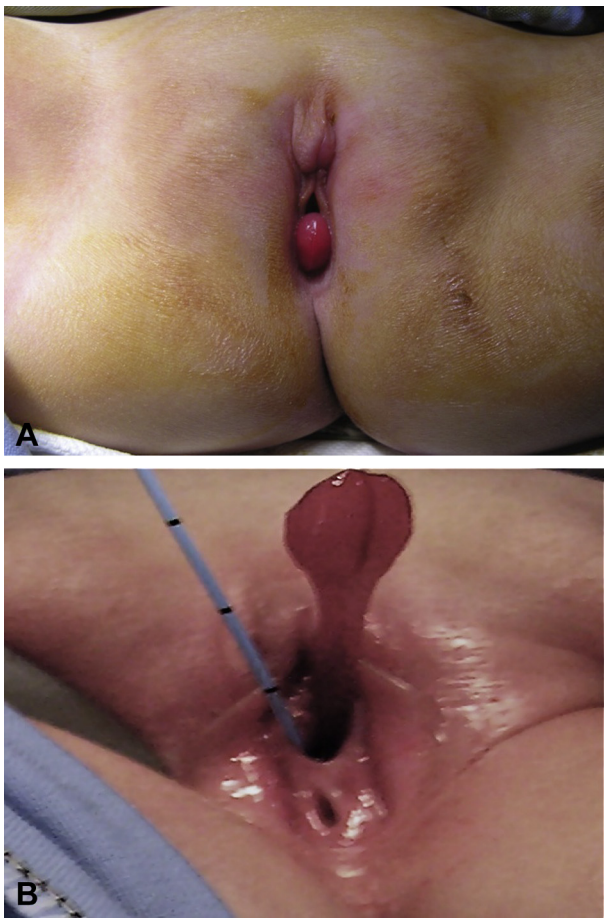

Fig. 1. A school-age girl presented with intermittent bleeding from the interlabial mass (*A*), the same child during frog legged position and traction on the polyp and examination under anesthesia (*B*).

pedunculated mass originating from the urethra were excluded from this study. Three girls with vaginal rhabdomyosarcoma and furthermore 2 girls with bladder rhabdomyosarcoma (protruding from the urethral meatal orifices) which also presented as interlabial mass were included in this study. From these 12 patients with diverse differential diagnosis, 3 with vaginal and 2 with bladder rhabdomyosarcoma who presented with interlabial mass were not full discussed in the present report due to different malignant natural history and management approaches. We present 7 cases with interlabial urethral polyps which were misdiagnosed as vaginal tumor. The most common finding was interlabial mass. Two girls presented with recurrent UTI, in spite of prophylactic antibiotics. One girl was managed for dysfunctional voiding for several years. She had history of recurrent urinary retention and she voided spontaneously following single urethral catheterization. She was symptom-free for several months but urinary retention was triggered following each episode of UTI and painful voiding. She underwent urodynamic study prior to final diagnosis; the maximum voiding pressure was 180 cm of water and detrusor sphincter discoordination (dyssynergia) without any abnormal neurologic findings on physical examination. She presented with interlabial mass (urethral polyp) during an extensive urologic examination at our center. The polyp was resected successfully and the voiding symptoms disappeared 6 months postoperatively.

Associated incidental anomalies were observed in 2 patients, including inguinal hernia and vesicoureteral reflux (VUR). Laboratory assessments were unremarkable; except for 2 patients who presented with a positive urine culture. All blood coagulation profiles were unremarkable prior to operation.

Surgical Technique

All patients underwent urologic evaluation (urinalysis, urine culture, urinary tract ultrasonography, post-voiding residual urine measurement, voiding cystourethrography, dimercaptosuccinic acid scan in patients with recurrent urinary tract infections (RUTI) or presence of VUR prior to surgery. All girls underwent diagnostic urethrocystoscopy and concomitant transurethral polyp resection. The precise anatomy of the polyp and the pedicle base of the polyps were evaluated and the exact location of the pedicle origin from the urethra was assessed. In patients with an interlabial mass due to a polyp, the procedure is straightforward, after insertion of a traction suture on the most prominent part of the polyp the suture pulls up the polyp in order to visualize the base of the polyp. The pedicle was resected by electrocautery, either by loop trans-urethral electrode for proximally located pedicle or by 2 French flexible Bugbee cautery electrode for the pedicle of the distally located urethral polyp. In patients who presented with no interlabial mass the surgical procedure was difficult. When urethrocystoscopy revealed intraluminal urethral polyp, originated from posterior urethra, a traction suture was not applied and transurethral resection of polyp was performed by loop electrode. In 3 girls, the polyp had a broad base that occluded the bladder neck during cystoscopy. These polyps were managed by cutting across its base using the cutting mode of a narrow-tipped resecting electrode. The polyp was washed back into the bladder and then retrieved from the bladder with a stone basket or foreign body forceps.

Following polyp resection the remaining base of polyp was coagulated meticulously in order to prevent postoperative bleeding. Finally an appropriate size silicone urethral Foley catheter was inserted and remained in situ for a week in order to re-epithelialize the denuded urethral mucosa and prevent possible urethral stricture. All patients received a single injection of third-generation cephalosporin prior to operation and oral antibiotic prophylaxis for 2 weeks after the operation. In patients with reflux, the protocol for prophylaxis was similar to the patients with primary reflux. In 1 girl with RUTI and reflux, concomitant endoscopic correction of reflux was applied during the polyp resection.

In patients with severe bladder irritation symptom an anticholinergic was administered. Immediate postoperative hematologic evaluation was done in 1 girl with postoperative urethral bleeding. There was no significant decrease in hemoglobin level and no blood transfusion