J Ped Surg Case Reports 7 (2016) 8–12

Contents lists available at ScienceDirect

Journal of Pediatric Surgery CASE REPORTS

journal homepage: www.jpscasereports.com

Acquired seminal vesicle cyst in a teenager with a urethral stricture of unknown etiology

James S. Farrelly [a], Muriel A. Cleary [a], Robert M. Weiss [b], Raffaella Morotti [c], David H. Stitelman [a,*]

[a] Department of Surgery, Section of Pediatric Surgery, Yale School of Medicine, New Haven, CT 06520, USA
[b] Department of Surgery, Section of Pediatric Urology, Yale School of Medicine, USA
[c] Department of Pathology, Yale School of Medicine, USA

ARTICLE INFO

Article history:
Received 14 January 2016
Accepted 19 January 2016

Key words:
Pelvic cyst
Seminal vesicle cyst
Urethral stricture
Laparoscopic resection

ABSTRACT

A seminal vesicle cyst remains a very rare diagnosis. Though most seminal vesicle cysts in the pediatric population are congenital and associated with ipsilateral upper urinary tract anomalies. We present a unique case of a 16-year-old with a small seminal vesicle cyst with normal upper urinary tract anatomy. This cyst was associated with urethral inflammation and stricture within the bulbar urethra, it is likely that this individual had an acquired seminal vesicle cyst at an abnormally young age although it is possible the cyst became inflamed and induced the urethral stricture. Despite the fact that the cause of his urethral pathology is unknown, the patient had nearly complete resolution of lower urinary tract signs and symptoms by the time of his follow-up visits at 1 week and 1 month.

Cysts of the seminal vesicles are extremely rare, with a reported prevalence as low as 0.005% [1]. The cysts can be congenital or acquired, and while congenital cysts are usually found along with other genitourinary anomalies, acquired cysts of the seminal vesicles are usually associated with chronic prostate inflammation, urinary tract infections, or acquired obstructive uropathy distal to the bladder (e.g. benign prostatic hyperplasia) [2–4]. When seminal vesicle cysts are identified in young patients children or adolescents, they are generally considered to be congenital due to the fact that the causes of acquired cysts are very rare in this population.

1. Case

A 16-year-old Caucasian boy presented with intermittent mild dysuria for approximately three years. His dysuria was associated with intermittent terminal hematuria for about one year prior to presentation. Urine dipstick tests performed at the primary care provider's office were positive for moderate blood but all urine cultures were negative. When the hematuria and dysuria did not resolve, the patient was referred to a Pediatric Urologist for further workup. His past medical history included mild seasonal allergies and mild intermittent asthma. His medications included loratadine, albuterol, and montelukast. He denied any source of urethral trauma, and he did not have a history of urinary tract infection. He was not sexually active, and had no history of sexually transmitted infection. He was born at full term via spontaneous vaginal delivery with no pre- or postnatal complications.

During his workup, the patient underwent a bladder and kidney ultrasound, which revealed a cystic structure posterior to the bladder near the left ureterovesical junction (Fig. 1A). Both left and right kidneys were present in expected locations and were normal in appearance on ultrasound. A magnetic resonance imaging (MRI) scan of the pelvis was performed to better visualize the cystic structure. The MRI showed a 2.3 × 2.3 × 1.9 cm predominantly cystic lesion with a non-enhancing 1.4 × 1.0 cm internal nodule. The lesion was abutting the rectum and small bowel, but it appeared to be distinct from the seminal vesicles and left ureter (Fig. 1B). Diagnoses considered prior to surgery included rectal duplication cyst or a cyst of the urogenital system.

Due to diagnostic uncertainty, the decision was made to surgically excise the cyst. Prior to excision, the patient underwent diagnostic cystoscopy with left ureteral stent placement to aide intra-operative ureter identification. The cystoscopy was notable for the presence of inflammation and a stricture within the bulbar urethra (Fig. 2A). The urethral stricture was serially dilated until an 18-French cystoscope could be passed easily into the bladder. An

* Corresponding author.
E-mail address: david.stitelman@yale.edu (D.H. Stitelman).

http://dx.doi.org/10.1016/j.epsc.2016.01.002

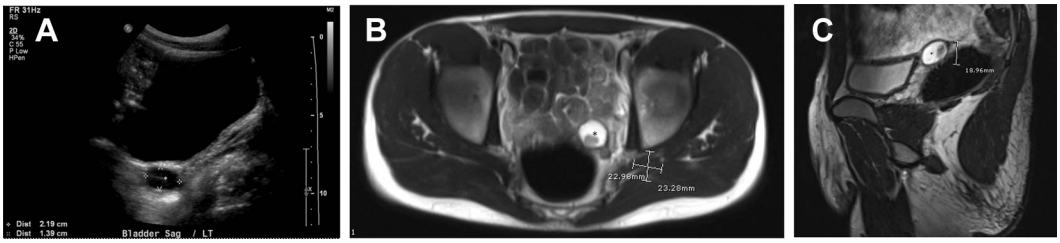

Fig. 1. A) Pelvic ultrasound. Sagittal view of bladder showing cystic structure posterior to the bladder (white asterisk). B) MRI of pelvis. Axial view of pelvis showing cystic lesion with internal nodule (black asterisk). C) MRI sagittal view of the pelvis showing cystic lesion with internal nodule (black asterisk).

18-French Foley urinary catheter was left in place after the successful placement of the left ureteral stent. Immediately following the cystoscopy, the patient underwent laparoscopic exploration of the pelvis. A congenital fibrous band between the rectum and the pelvic wall was cauterized and divided using hook cautery. No intestinal duplication was found. An extraperitoneal cystic mass was identified in the left lateral pelvis posterior to the bladder (Fig. 3A). This mass was dissected circumferentially using blunt dissection and hook cautery, and a second smaller cystic mass was identified adherent to the primary cyst (Fig. 3B). Both cystic masses were excised together without complication. The left ureter, seminal vesicle, and bladder were all identified and preserved.

Pathological analysis of the 2 excised specimens revealed each to be unilocular cysts measuring 1.5 cm and 2 cm respectively in largest dimension. Upon cut section a yellow fluid was identified. The inner cyst lining was uniformly smooth and the wall thickness ranged from 0.1 to 0.3 cm. On histology the epithelial lining did not show any hyperplasia and was composed of cuboidal and columnar basal cells (Fig. 4A and B). By consensus review the cyst was diagnosed as a bilobed seminal vesicle cyst.

2. Follow-up

The patient's recovery was uneventful. His ureteral stent was removed in the operating room at the end of the case, and he was discharged to home on post-operative day 1 with his urinary catheter in place. The urinary catheter was removed 1 week later after a normal voiding trial with a urine flow rate of 24 mL/s and negligible post-void residual volume. The patient reported an improvement in dysuria at his one-month follow-up.

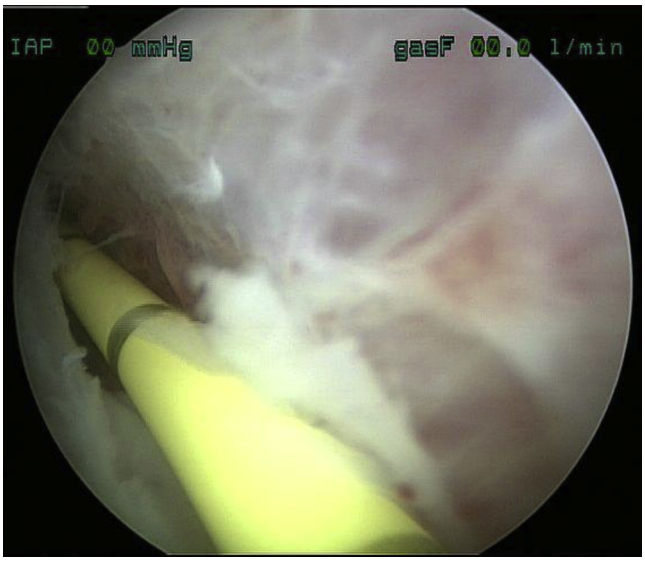

Fig. 2. Cystoscopy revealed inflammation in bulbar urethra with an associated stricture.

3. Discussion

Anomalies of the seminal vesicles are rare, with previously reported prevalence as low as 0.05% among about 10,000 cadavers at autopsy [4]. Specifically, cystic malformations of the seminal vesicles are extremely rare with a reported prevalence as low as 0.005% in men of all ages [1]. Due to the fact that many patients are asymptomatic, cystic anomalies of the seminal vesicles are likely underreported [5]. Seminal vesicle cysts can be congenital or acquired, and either type can become symptomatic. As described by Zinner in 1914, congenital seminal vesicle cysts are often associated

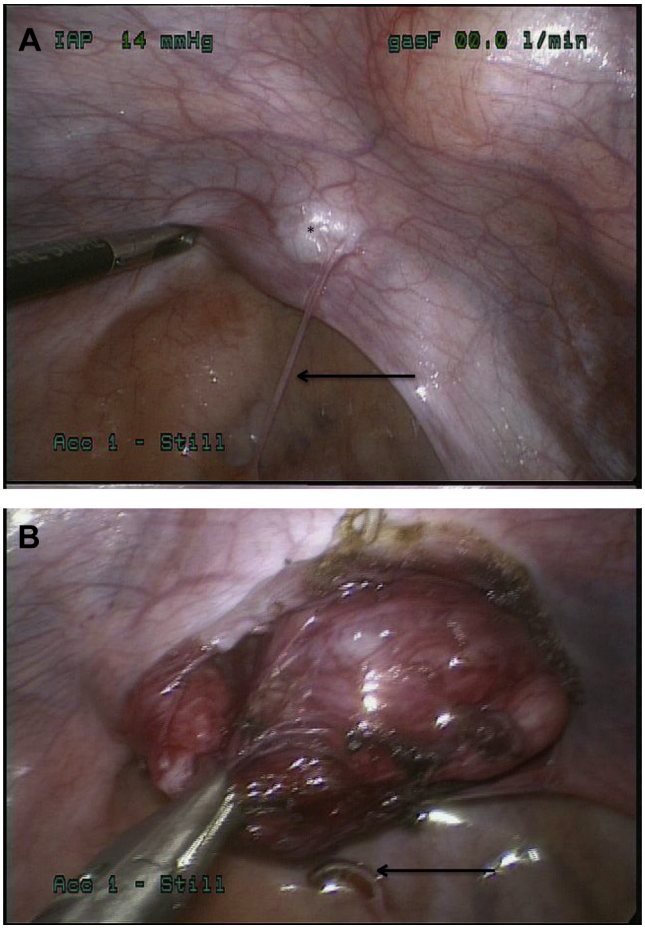

Fig. 3. A) Intra-operative photo of intact lesion (black asterisk) with associated fibrotic band (black arrow). B) Intra-operative photo of fully dissected lesion and divided fibrotic band (black arrow).