Case report of a combined prostatic and utricular cyst

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**Abstract**

A 16 year old previously well boy presented with voiding difficulty that progressed to intermittent retention over a two month period. A renal ultrasound showed a structure consistent with a utricular remnant behind the base of the bladder that endoscopically appeared to terminate in the posterior wall of the prostatic urethra as a cystic, enlarged verumontanum. Following an uneventful endoscopic fulguration of the anterior wall, the boy remained catheterized overnight. The following day the catheter was removed at the time of a radiologic study of the lower urinary tract, which showed a dilated posterior urethra, but no reflux into the tubular retro-vesical structure that was noted to have emptied on a post-operative ultrasound.

**Keywords**

Utriculus; prostatic cyst; bladder outlet obstruction; retention.

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**Introduction**

Levin describes the normal prostatic utricle (Latin for “pouch of the prostate”) as, usually, a minute, blind ending pouch opening into the verumontanum, noting that it has a glandular grouping, lined with epithelial cells with differentiation similar to those lining the main prostatic ducts and acini. It has no function and is the male homologue of the female uterus [1]. However, utricular remnants can be sizable, and are frequently associated with severe hypospadias [2,3].

There appears to be uncertainty as to whether there is any difference between utricular remnants and Müllerian duct anomalies in males, with many using the term interchangeably [2,4,5]. Some authors declare a distinct difference, suggesting that Müllerian duct cysts are round, do not open access
communicate with the prostatic urethra and are discovered later in adults with normal genitalia [6]. The lesions that are connected to the middle of the verumontanum via an orifice that leads to the posterior urethra are not cysts as they are often referred to, but are a diverticulum attached to the urethra. In the case presented by Nork et al. [7], the patient had a cystic structure that appeared endoscopically like a cystic verumontanum, rather than the frequently seen thin walled cystic structure that is within the lumen of the urethra rather than being a cystic deformity of the verumontanum [3].

McDermott [3], in a study of MRI images of urethral anomalies, described six types of prostatic cysts, none of which were of the type described by Nork et al. [8], which seemed, on the endoscopic appearances, to be identical to our patient. However, our patient appeared to have both the features of a Müllerian cyst, but with a tubular structure behind the bladder usually termed a utricular remnant, unlike Nork’s patient that lacked the retrourethral extension. Tröbs also presented a similar patient as one of four with a urethral cyst and vesicoureteral reflex [9].

Case Report
A 16 year old boy presented with increasingly obstructive bladder outlet symptoms over a two month period. He had no previous urological history and no indication of urine infection, and no hematuria.

A renal ultrasound showed a structure consistent with a utricular remnant behind the base of the bladder [Fig. 1A,B] that on endoscopy appeared to terminate in the posterior wall of the prostatic urethra; a lesion that looked like a cystic, enlarged verumontanum [Fig. 2A,B,C,D].

Fig. 1 (A, B). Longitudinal and transverse views of the posterior wall of the bladder before endoscopic incision of the prostatic cyst show a fluid filled structure arising from the posterior urethra.
The cristae are seen leading up to the cystic verumontanum (A) that is then seen in a closer view, just above the proximal end of the external sphincter. (B) The third image shows the bugbee electrode indenting the cyst (C) into which a hole is created (D), large enough to admit the 11 FG cystoscope.

Following an uneventful endoscopic procedure the boy remained catheterized overnight; catheterization that was facilitated by endoscopic insertion of a guidewire and passage of the catheter over the guidewire [10]. The catheter was removed the following day at the time of a radiologic study of the lower urinary tract that showed a dilated posterior urethra, but no reflux into the tubular retro-vesical structure [Fig. 3] that was noted to have emptied on a post-operative ultrasound [Fig. 4 A,B].

![Fig. 2](image1.png)

**Fig. 2.** The cristae are seen leading up to the cystic verumontanum (A) that is then seen in a closer view, just above the proximal end of the external sphincter. (B) The third image shows the bugbee electrode indenting the cyst (C) into which a hole is created (D), large enough to admit the 11 FG cystoscope.

![Fig. 3](image2.png)

**Fig. 3.** A post-operative cystogram shows a dilated posterior urethra, but no reflux into the ultrasound and endoscopy identified cystic structure attached to the back of the posterior urethra.
Fig. 4 (A, B). Longitudinal and transverse views of the posterior wall of the bladder after endoscopic incision of the prostatic cyst. The previously noted fluid collection has resolved.

Discussion

The most important aspect of the management of an individual rare case is that the patient has a good immediate and long-term outcome from the management, based on sound principles.

This was the case for the teenage boy we treated, who was managed by investigation with a cystoscopy after the ultrasound inference of a dilated utricular remnant. During the endoscopy, a cystic structure was identified in the posterior urethra that appeared to be the cause of the obstructive symptoms, which were resolved with fulguration of part of the anterior wall.

Obviously, the embryology of the anomaly cannot be confirmed, but it is interesting to note the lack of clear definition of the difference between the pathology and the embryology of the lesions called Müllerian and utricular remnants, and it is interesting to contemplate the similarity in the endoscopy in severe hypospadias and masculinized congenital adrenal hyperplasia girls of the relationship to the verumontanum and the vagina, suggesting the utricular “cyst”, as it is misnamed, is from the Müllerian duct.

While cysts of the prostate are described, the only case similar to ours was not associated with a tubular fluid filled structure behind the base of the bladder as we have seen. The utricular remnant component was not visible on the post-operative ultrasound, suggesting that the contents had been drained by opening of the cyst’s anterior wall. Subsequent reflux into the utricular component, we feel, was prevented, as supported by the post-operative cystogram, because of the residual flap valve arrangement created by the anterior wall of the cyst. This is similar to the way in which reflux into not an
ureterocele can be prevented by careful placement of the incision for the drainage of the cystic dilated the distal end of the ureter [11].

Conclusions
The embryology of the anomaly in this boy is uncertain, with the finding of both a tubular structure behind the base of the bladder and a cystic verumontanum not having previously been reported, to our knowledge. However, resolution of the clinical problem of partial retention was easily achieved, as was normalization of the ultrasound.

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References