

# Excision of Prostatic Utricle: When? How?

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## Abstract

The prostatic utricle is a rare anomaly in the urogenital system and is generally thought to develop from remnants of the Müllerian duct. Prostatic utricle is usually accompanied by hypospadias, renal agenesis, and cryptorchidism, and it is mostly asymptomatic. Symptoms such as recurrent urinary tract infection, epididymo-orchitis, abdominal pain, voiding disorders, and stones are observed. Surgery in symptomatic patients is recommended. Prostatic utricle cyst was detected as a result of abdominal imaging in two of our patients who had a history of hypospadias repairs, and who presented with complaints of recurrent epididymo-orchitis and abdominal pain. We report two cases of laparoscopic utricle cyst excision.

**Keywords:** Prostatic utricle, hypospadias, epididymo-orchitis

## Introduction

The prostatic utricle is a sinus, lined with mucosal epithelium, opening between the two ejaculatory ducts on the verumontanum (1). It is located in the midline, in the lower half of the pelvic cavity, between the bladder and the rectum, and is usually associated with the prostatic urethra. Utricular anomalies result from incomplete regression of the Müllerian duct remnants or incomplete androgen-mediated closure of the urogenital sinus (2). It is rare in the normal population and is mostly asymptomatic. Surgery in symptomatic patients is recommended.

## Case Presentation

1. A 1-year-old male patient was admitted to our clinic due to proximal hypospadias. There was nothing notable in the patient's history, except that he was born prematurely, and had undergone right inguinal hernia operation together with right orchiopexy. Physical examination revealed penoscrotal hypospadias, right inguinal scar, and left undescended testicle. After the patient's chromosome analysis was 46-XY, left orchiopexy and two-stage hypospadias repair (chord release and Byar flap with prepuce + Thiersch-Duplay procedure) were performed. As urethrocutaneous fistula developed in the following months, fistula repair was performed. As epididymo-

orchitis developed after fistula repair, cystoscopy was planned. A cystic lesion was observed on the posterior wall of the bladder in the ultrasonography performed before cystoscopy. Cystoscopy revealed stenosis in the distal urethra and a utricle opening into the prostatic urethra. Ultrasonography was repeated simultaneously with cystoscopy, and the utricle diameter was measured as 4.5 cm. No pathological lesion was found in the bladder. A guidewire was advanced to the bladder, the stenosis in the distal urethra was cut with Bugbee cautery, and the urethra was dilated to 12F. The patient was admitted with complaints of left epididymo-orchitis 2 weeks after the procedure. Under general anesthesia, a cystostomy was opened and the utricle was fulgurized. After the procedure, the patient was admitted again with complaint of left epididymo-orchitis. Ultrasonography revealed a 34 x 20 mm prostate utricle in the posterior part of the bladder. He was admitted to the hospital with plans for laparoscopic utricle cyst excision.

2. A 10-year-old patient presented with the complaint of abdominal pain. He had four previous operations due to hypospadias and a history of epididymo-orchitis in the post-operative period. As a result of abdominal magnetic resonance imaging, a 7 x 1 cm cystic lesion was observed in the rectovesical area. Since the complaints of blunt pain in the lower abdominal quadrant, nausea, and vomiting continued, he was hospitalized with plans for laparoscopic utricle cyst excision.

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**Received:** 23.11.2024 **Accepted:** 15.01.2025 **Epub:** 18.04.2025

**Cite this article as:** Karakurt G, Keskin H, Doğan HS, Tekgül S. Excision of prostatic utricle: when? How? J Urol Surg. [Epub Ahead of Print]



Informed consent from the parents of the patients was provided. The surgical procedure is described in the video (Video 1).

First, a cystostomy catheter was placed in the bladder, and a ureteral catheter was placed in the utricle under cystoscopy guidance. Then, the laparoscopic case was started. Visualization was achieved by injecting methylene blue into the utricle. The peritoneum was incised from the midline, and the utricle wall was reached. The 8F Foley catheter was advanced into the utricle. The balloon was inflated and placed at the neck of the utricle. The utricle wall was dissected, freed, and excised. The remaining mucosal area within the utricle was fulgurized. The neck of the utricle was then sutured and closed. A 12F sump drain was placed in the surgical area and the procedure was terminated. On the 3rd postoperative day, the patient's drain was removed and they were discharged. During the nine-month follow-up, no complications or recurrent epididymo-orchitis were observed.

## Discussion

Prostatic utricle, a vestigial remnant of the Müllerian duct, is a rare pathology. Although its true incidence is not known exactly, it is seen in 14% of patients with proximal hypospadias, and approximately 50% of patients with perineal hypospadias (3). As the severity of hypospadias increases, the incidence of prostatic utricle increases (4). Most of the patients are seen in the triad: Proximal hypospadias, cryptorchidism, and a prostatic utricle. Although most patients are asymptomatic, 29% have various clinical presentations such as including lower urinary tract symptoms, epididymo-orchitis, urinary tract infection, stones, secondary incontinence, and urinary retention (5). As in our patient, a prostatic utricle should be considered when lower urinary tract symptoms such as recurrent epididymo-orchitis are seen in patients with a history of proximal hypospadias and undescended testicles. Diagnosis is possible with an accessible examination such as pelvic ultrasonography. Surgical excision is recommended in symptomatic patients. However, there is no standard surgical method yet (6). There are many different surgical approaches. Endoscopic, open and minimally invasive procedures have been described. Schuhrke and Kaplan (7) reported endoscopic transurethral cyst catheterization and aspiration, cyst orifice dilatation, incision or deroofing. It may be suitable for small utricles, but the recurrence rate is high (8). Open excision is a successful method. A wide variety of approaches have been described, including the abdominal transperitoneal, perineal, combined abdomino-perineal, anterior sagittal, posterior sagittal transrectal, suprapubic extravesical, and transvesical transtrigonal approaches (9). However, it may require extensive pelvic dissection. It carries risks such as pelvic organ injuries and inadequate utricle excision during dissection. With the developing technology, minimally invasive

interventions have become popular. Yeung et al. (10) reported the first successful laparoscopic excision series of four cases. Jia et al. (11) reported a retrospective comparison between the open transvesical approach and the laparoscopic approach, involving a total of 14 patients. It has been observed that, in the laparoscopic technique, better cosmetic results are obtained with shorter operative time, hospital stay, and catheter time. Other advantages of the laparoscopic technique can be listed as follows: i) Clear view of the deep pelvic structures; ii) Enabling examination of the rest of the abdomen and urogenital system; iii) Complete excision (12). Minimally invasive techniques have been preferred in recent years with their successful results (13-15).

In patients with proximal hypospadias and undescended testis, pelvic ultrasonography may be beneficial to identify possible utricle pathologies preoperatively. The existence of a prostatic utricle does not necessitate preemptive intervention unless symptoms develop. In the case of surgical intervention for the giant prostatic utricle, the laparoscopic approach seems feasible as it facilitates total excision by a minimally invasive method and is advantageous compared to the open surgical approach, which might be challenging due to the difficult anatomic location.



Video 1.

## Ethics

**Informed Consent:** Written informed consent was obtained from the patient.

## Footnotes

### Authorship Contributions

Surgical and Medical Practices: H.S.D., S.T., Concept: H.K., H.S.D., S.T., Design: G.K., H.K., H.S.D., Data Collection or Processing: G.K., H.K., Analysis or Interpretation: H.S.D., S.T., Literature Search: G.K., H.K., S.T., Writing: G.K., H.S.D.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declare that they received no financial support for this study.

## References

1. Oh CS, Chung IH, Won HS, Kim JH, Nam KI. Morphologic variations of the prostatic utricle. *Clin Anat*. 2009;22:358-364. [\[Crossref\]](#)
2. Desautel MG, Stock J, Hanna MK. Müllerian duct remnants: surgical management and fertility issues. *J Urol*. 1999;162:1008-1013; discussion 1014. [\[Crossref\]](#)

3. Hendry WF, Pryor JP. Müllerian duct (prostatic utricle) cyst: diagnosis and treatment in subfertile males. *Br J Urol.* 1992;69:79-82. [\[Crossref\]](#)
4. Benedetto VD, Bagnara V, Guys JM, Meyrat JM, Monfort G. A transvesical approach to müllerian duct remnants. *Pediatr Surg Int.* 1997;12:151-154. [\[Crossref\]](#)
5. Liu B, He D, Zhang D, Liu X, Lin T, Wei G. Prostatic utricles without external genital anomalies in children: our experience, literature review, and pooling analysis. *BMC Urol.* 2019;19:21. [\[Crossref\]](#)
6. Mostafa IA, Woodward MN, Shalaby MS. Cystoscopic-assisted laparoscopic excision of prostatic utricle. *J Pediatr Urol.* 2018;14:77-78. [\[Crossref\]](#)
7. Schuhrke TD, Kaplan GW. Prostatic utricle cysts (müllerian duct cysts). *J Urol.* 1978;119:765-767. [\[Crossref\]](#)
8. Meisheri IV, Motiwale SS, Sawant VV. Surgical management of enlarged prostatic utricle. *Pediatr Surg Int.* 2000;16:199-203. [\[Crossref\]](#)
9. Ramachandra M, Bendre PS, Redkar RG, Taide DV. Isolated prostatic utricle. *J Indian Assoc Pediatr Surg.* 2009;14:228-229. [\[Crossref\]](#)
10. Yeung CK, Sihoe JD, Tam YH, Lee KH. Laparoscopic excision of prostatic utricles in children. *BJU Int.* 2001;87:505-508. [\[Crossref\]](#)
11. Jia W, Liu GC, Zhang LY, Wen YQ, Fu W, Hu JH, Xia HM. Comparison of laparoscopic excision versus open transvesical excision for symptomatic prostatic utricle in children. *J Pediatr Surg.* 2016;51:1597-1601. [\[Crossref\]](#)
12. Willetts IE, Roberts JP, MacKinnon AE. Laparoscopic excision of a prostatic utricle in a child. *Pediatr Surg Int.* 2003;19:557-558. [\[Crossref\]](#)
13. Jiwane A, Soundappan SV, Pitkin J, Cass DT. Successful treatment of recurrent epididymo-orchitis: laparoscopic excision of the prostatic utricle. *J Indian Assoc Pediatr Surg.* 2009;14:29-30. [\[Crossref\]](#)
14. Goruppi I, Avolio L, Romano P, Raffaele A, Pelizzo G. Robotic-assisted surgery for excision of an enlarged prostatic utricle. *Int J Surg Case Rep.* 2015;10:94-96. [\[Crossref\]](#)
15. Wu TH, Hsu YJ, Chin TW, Fu YW. A rare case of prostatic utricle with crossover vas deferens in children. *Medicina (Kaunas).* 2021;58:40. [\[Crossref\]](#)