



Renal dysplasia with the ipsilateral ectopic ureter mimicking abscess of the prostate

Renalna displazija sa ipsilateralnim ektopičnim ureterom koji oponaša apsces prostate

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Abstract

Introduction. In males the ectopic ureter usually drains into the prostate (50%). During ureteric development a thin membrane (Chawalla's membrane) separates the lumen of the ureter and the urogenital sinus at the point where the ureter joins the urogenital sinus. This membrane ruptures allowing urine to drain from the ureter to the urogenital sinus. The authors reported a case of renal dysplasia associated with ipsilateral ureteral ectopia mimicking prostatic abscess. **Case report.** A subfebrile (37.3°C), 23-year-old patient, otherwise healthy, presented with persistent ascending perineal pain non-responsive to antibiotics and analgetics. Digitorectal examination (DRE) showed asymmetric prostate with a soft, tender, bulging left lobe suggestive of prostatic abscess. The diagnosis was suspected using transrectal ultrasonography (TRUS), but the picture of the anechoic tubular structure in the left lobe of the prostate with a proximal undefined extraprostatic extension and a caudal intraprostatic blind end was inconclusive for the definitive diagnosis of prostatic abscess. Magnetic resonance imaging (MRI) was ordered and definitive diagnosis of renal dysplasia associated with the ipsilateral ectopic ureter filled with inflamed content mimicking prostatic abscess was made. Transurethral incision/minimal resection of the distal, blindly closed end of left ectopic ureter was done. Endoscopic surgical treatment was sufficient for relief of clinical symptoms. The patient's recovery was uneventful. **Conclusion.** To the best of our knowledge, a case of renal dysplasia with the ipsilateral ectopic ureter mimicking prostatic abscess has not been reported so far. Cystic pelvic malformations in males may result from too cranial sprouting of the ureteral bud, with delayed absorption and ectopic opening of the distal end of the ureter.

Key words:

abnormalities; kidney diseases; ureteral diseases; prostatitis; abscess; diagnosis, differential; urologic surgical procedures; treatment outcome.

Apstrakt

Uvod. Ektopični ureter kod muškaraca obično se drenira u prostatu (50%). Tokom razvoja uretera tanka membrana (Chawalla membrana) razdvaja lumen uretera i urogenitalni sinus na nivou spoja uretera i urogenitalnog sinusa. Rupturam ove membrane dolazi do drenaže urina iz uretera u urogenitalni sinus. U radu je prikazan bolesnik sa renalnom displazijom i ektopijom ipsilateralnog uretera koji je otkriven u okviru diferencijalnodijagnostičke pretrage suspektne apscesa prostate. **Prikaz bolesnika.** Supfebrilan (37,3°C) bolesnik star 23 godine, inače zdrav, žalio se na konstantan, intenzivirajući bol u perineumu koji nije prolazio na antibiotiku i analgetsku terapiju. Digitorektalnim pregledom (DRP) nađena je simetrična prostata sa mekim, osetljivim, izdignutim levim lobusom što je izazvalo sumnju na postojanje apscesa prostate. Načinjena je transrektalna ultrasonografija (TRUS), ali slika tubularne formacije u levom lobusu prostate sa proksimalno nedefinisanim ekstraprostatičnom ekstenzijom i kaudalnim slepo zatvorenim intraprostatičkim krajem bila je inkonkluzivna za definitivnu dijagnozu apscesa prostate. Načinjeno je snimanje magnetnom rezonancom (MRI) kada je i postavljena definitivna dijagnoza renalne displazije sa ipsilateralnim ektopičnim ureterom, ispunjenim inflamiranim sadržajem koji daje lažnu sliku apscesa prostate. Načinjena je transuretralna incizija slepo zatvorenog distalnog kraja levog ektopičnog uretera. Endoskopsko hirurško lečenje bilo je dovoljno za prestanak tegoba. Oporavak bolesnika protekao je uredno. **Zaključak.** Pregledom literature nismo naišli na prikaz bolesnika sa renalnom displazijom i ipsilateralnim ureterom koji oponaša apsces prostate. Cistične malformacije u muškoj karlici mogu rezultirati kranijalno postavljenim ureteralnim pupoljkom, sa odloženom absorpcijom i ektopičnom prezentacijom donjeg dela uretera.

Ključne reči:

anomalije; bubreg, bolesti; ureter, bolesti; prostatitis; apsces; dijagnoza, diferencijalna; hirurgija, urološka, procedure; lečenje, ishod.

Introduction

Principles of ureter development are little understood. Ureters begin as a simple cuboidal epithelial tube with a formed lumen at 28 days of gestation. It is suggested that transient luminal obstruction occurs between the days 37 and 40 that recanalizes subsequently. The process of recanalization starts in the mid ureter and extends cranially and caudally. Chawalla's membrane presents a two-cell thick layer over the ureteral orifice. During ureteric development a Chawalla's membrane separates the lumen of the ureter and the urogenital sinus. This membrane ruptures allowing urine to drain from the ureter to the urogenital sinus. In males, ectopic ureter usually drains into prostate (50%).

Case report

A subfebrile (37.3°C), 23-years-old patient, otherwise healthy, presented with persistent ascending perineal pain lasting for a week, non-responsive to antibiotic and analgetics. His past history revealed 3 episodes of similar symptoms (although much less severe), with the first episode presented 4 years ago. In the past the patient would be typically treated like exacerbated chronic *prostatitis* [the diagnosis would be established based on anamnesis and laboratory tests – digitorectal examination (DRE) were not done at any time] by ciprofloxacin. The symptoms would disappear on the standard antibiotic therapy. After anamnesis had been taken, physical examination was done. Physical examination of the abdomen and external *genitalia* as well as laboratory findings (urinalysis, white blood cells – WBC, erythrocyte sedimentation rate – SE) were unremarkable. Digitorectal examination showed the asymmetric prostate with a soft, tender, bulging left lobe mass with no discharge on massage. The diagnosis of possible prostate abscess was made and transrectal ultrasonography (TRUS) was done (Figure 1), but the definitive diagnosis was revealed by magnetic resonance imaging (MRI) (Figures 2).

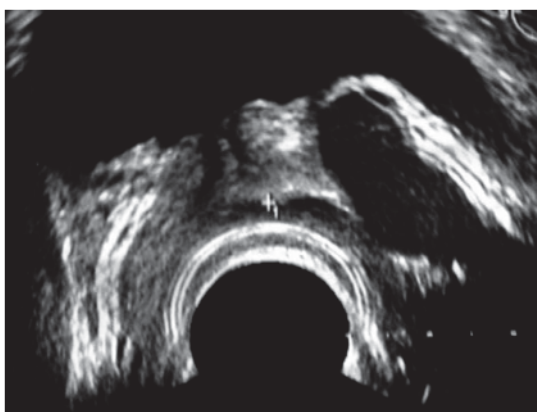


Fig. 1 – Transrectal ultrasound (TRUS) showing the anechoic tubular structure in the left lobe of the prostate with a proximal extraprostatic extension and a caudal intraprostatic blind end.

Urethroscopy showed the asymmetric bladder trigone elevated on the left side (by the dilated distal part of the

ectopic left ureter) with the missing left ureteral orifice. A paracollicular swelling on the left side (bulging of dilated, distal part of ectopic ureter) in the prostatic urethra (Figure 3a) was incised/minimally resected, and was followed by turbid discharge from the ectopic ureter. A wide ectopic, dilated distal part of the left ureter was noticed (Figure 3b). Immediately after incision/resection of the paracollicular area of the prostate, elevation of the bladder trigone disappeared.

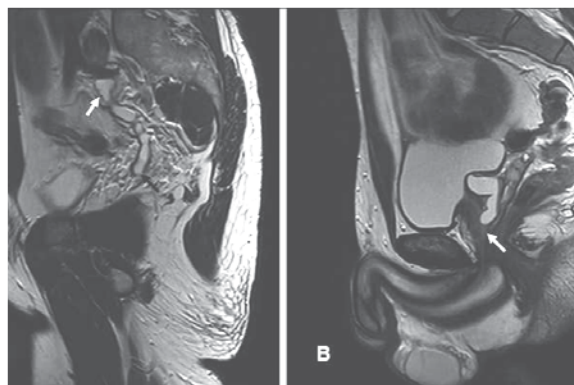


Fig. 2 – Magnetic resonance imaging (MRI) showing the small dysplastic kidney (white arrow) in the left retroperitoneum and the distended and convoluted ectopic ureter (black arrow).

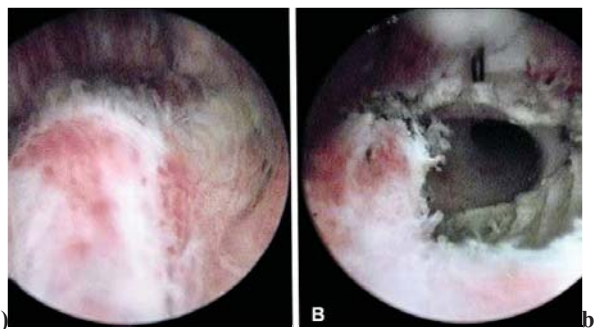


Fig. 3 – a) Endoscopic view of the prostatic urethra with the swelling on the left side above a verumontanum; b) Endoscopic view of the prostatic urethra after surgical incision of ectopic ureter.

After the procedure, upon waking up from general anesthesia, the patient was absolutely pain-free, requiring no analgesia at all. The patient was discharged from the hospital on the first postoperative day and was prescribed ciprofloxacin *per os* for 5 days. One month after the procedure, control cystoscopy was done and the same picture of intraoperative finding – a widely open ectopic, dilated distal part of the left ureter was seen. Digitorectal examination, physical examination of external *genitalia* as well as laboratory findings (urinalysis, urine culture, WBC, SE) were unremarkable.

Discussion

To the best of our knowledge, there has been no previous report on renal dysplasia with the ipsilateral ectopic ureter mimicking prostatic abscess. Endoscopic prostate interventions can cause early and late postoperative complica-

tions such as: failure to void, urinary tract infections and transurethral resection syndrome^{1,2}. Pelvic cystic malformations in males may result from a too cranial sprouting of the ureteral bud with delayed absorption and ectopic opening of the distal end of the ureter. The symptoms are usually related to bladder or cyst distention or secondary to the obstruction of mesonephric duct derivations^{3,4}. The most probable embryological cause of blindly closed ureter is a persistent Chwalla membrane. It is physiologically seen between the weeks 37 and 39 of gestation, then it ruptures and allows normal drainage of urin^{5,6}.

Conclusion

To the best of our knowledge, a case of renal dysplasia with the ipsilateral ectopic ureter mimicking prostate abscess has not been reported so far. Cystic pelvic malformations in males may result from too cranial sprouting of the ureteral bud, with delayed absorption and ectopic opening of the distal end of the ureter. A clinical algorithm consists of the history and physical exam, TRUS and MRI, and seems to be sufficient for the correct diagnosis.

REFERENCES

1. Reich O, Gratzke C, Bachmann A, Seitz M, Schlenker B, Hermanek P, et al. Morbidity, mortality and early outcome of transurethral resection of the prostate: a prospective multicenter evaluation of 10,654 patients. *J Urol*. 2008; 180(1): 246–9.
2. Rassweiler J, Teber D, Kuntz R, Hofmann R. Complications of transurethral resection of the prostate (TURP): incidence, management, and prevention. *Eur Urol* 2006; 50(5): 969–79.
3. Mayersak JS. Urogenital sinus-ejaculatory duct cyst: a case report with a proposed clinical classification and review of the literature. *J Urol* 1989; 142(5): 1330–2.
4. MacDonald GR. The ectopic ureter in men. *J Urol* 1986; 135(6): 1269–71.
5. Wein AJ, Kavoussi LR, Novick AC, Partin AW, Peters CA. *Campbell-Walsh Urology*. 10th ed. Philadelphia, Pa: WB Saunders; 2012.
6. Gupta RK, Borwankar SS, Parelkar SV. Ureteric valve: Case report with an insight into anatomy, embryology, presentation and management. *Indian J Urol* 2008; 24(4): 561–3.

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