



Rare Cases of Extremely Dilated Urinary Bladder

A.Hilendarov, L.Tchervenkov, N.Sirakov

Department of Imaging Diagnostics, MU-Plovdiv, Bulgaria

Correspondence

Atanas Dimitrov Hilendarov

Department of Imaging Diagnostics,
MU-Plovdiv, Bulgaria

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Abstract

Introduction: The incidence of non-calculus dilated urinary bladder is being evaluated more commonly recently. Many cases are presented incidentally, predominantly in males rather than in females.

Purpose: We present cases of patients with an extremely dilated urinary bladder, incidentally found during ultrasonographic examination of the prostate for complaints of incontinence, although they had atypical clinical presentations.

Material and Methods: Two patients were examined with ultrasonography, and after that axial computed tomography (CT) was performed. The cases were of a 75-year-old man and a 69-year-old woman. They had experienced a feeling of distention and pain in the abdomen for several years, as well as voiding disturbances—pollakiuria. There were no other clinical pathological findings. Ultrasound examination revealed a multicystic formation with fine sediment in it and dorsal contours. CT and MRI investigations confirmed the findings. The diagnosis was a polycystic retroperitoneal formation with unknown origin.

Conclusion: The above-described cases with an extremely dilated urinary bladder are presented in order to draw the attention of diagnosticicians because of the relative rarity of such pathologies.

Case Report

In our cases, the ultrasound examination revealed a multicystic formation occupying the abdominal cavity from the symphysis up to the liver (Fig. 1). CT confirmed the finding (Fig. 2).

The diagnosis of a retroperitoneal cystic formation led to the decision for operative intervention. After cutting the skin, the surgeon observed the wall of the urinary bladder. Catheterization of the urinary bladder

was carried out, and eight liters of urine were evacuated. This confirmed the diagnosis of an extremely dilated urinary bladder.

Retrospectively, a more precise clinical investigation was undertaken, which revealed suspicion of the existence of urethral stricture since childhood.

MRI investigations confirmed the diagnosis (Fig. 3). Palliative operative intervention with partial resection of the urinary bladder was performed, and the patient had no further complaints.

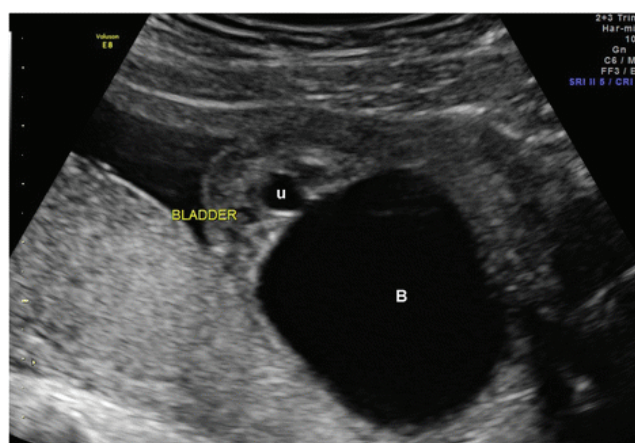


Figure 1. US examination with marked bladder distention

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Figure 2. CT image showing a extremely dilated urinary bladder



Figure 3. MRI of the same patient after catheterisation

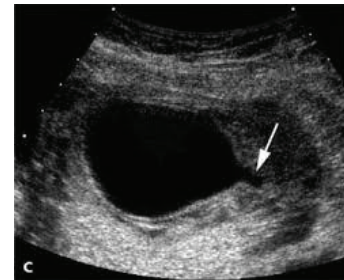


Figure 4. Posterior urethral valves with marked bladder distention. US of fetal abdomen reveal markedly distended bladder and dilated posterior urethra (arrow) extending from the bladder.

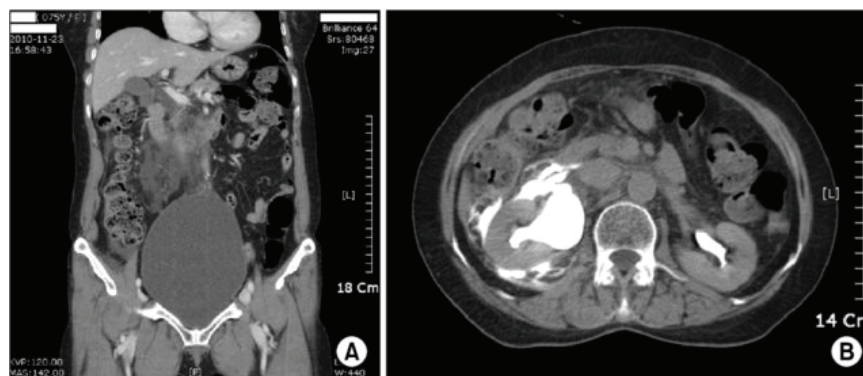


Figure 5. CT image showing a dilated bladder, suggestive of urinary retention. (B) CT image showing extravasation of radiopaque contrast from the ruptured ureter. Contrast medium leakage into the perirenal space is shown. CT, computed tomographic.

Discussion

Some of the frequent causes of extremely dilated urinary bladder (EDUB) are pelviureteric junction obstruction, benign prostatic hypertrophy, urethral stricture, neurogenic bladder, retroperitoneal mass, bladder outlet obstruction, and some other rare causes [1,2,3]. Ultrasonography is the most important baseline investigation in the evaluation of patients with EDUB [4,5].

The etiology and presentation of dilated urinary bladder in adults differ from those in neonates and children.

Pelviureteric junction obstruction, benign prostatic hypertrophy, urethral stricture, neurogenic bladder, retroperitoneal mass, and bladder outlet obstruction are some of the frequent causes of dilated urinary bladder. The symptoms of bilateral hydronephrosis may vary depending on the clinical circumstances. They include abdominal pain, continuous feeling of a full bladder, frequent urination, acute urinary retention, dysuria, urinary hesitancy, urinary intermittency,

haematuria, urinary tract infections, and signs and symptoms of kidney failure such as nausea, fatigue, and fluid retention [6,7]. Some cases are completely asymptomatic.

Ultrasonography is the most important baseline investigation in the evaluation of patients with hydronephrosis and extremely dilated urinary bladder (Fig. 4).

We report a rarely seen case of bilateral hydroureteronephrosis associated with a hypertrophied, trabeculated bladder in an adult patient, suspected to be due to a primary stricture of the urethra, and analyze its various other causes, clinical presentations, and outcomes.

Benign prostatic hyperplasia (BPH) is the most common cause of hydroureteronephrosis in adults over 60 years of age, accounting for 70% of the cases. The most bothersome symptoms include nocturia, followed by burning micturition. Transurethral resection of the prostate is the gold standard surgical modality for obstructing BPH, and it has gained popularity among urologists because of its success rate [8,9].

Urethral stricture seems to be another important factor initiating hydronephrosis. Patients with urethral stricture are treated with excision and primary anastomosis, and a high success rate of 98.8% has been observed. There are few complications, and these are self-limited and of short duration. Some patients with recurrent stricture require intermittent dilatations, urethral reconstructions, and anastomotic urethroplasty [9,10].

Other less important factors that can induce hydronephrosis include ureteric stricture and vesicoureteral reflux (VUR). Except in cases of primary PUJ obstruction, ureteral strictures are acquired and are usually iatrogenic. The treatment of choice depends on the length, location, and cause of the stenosis. Most patients are managed with balloon dilation and endoureterotomy, while a few require open surgical repair. VUR usually affects children. Children with urinary tract infections are diagnosed with VUR after cystourethrogram.

The usual investigations include blood analysis for urea and creatinine to assess renal damage; excretory, antegrade, or retrograde urography to ascertain narrowing of the urethra; uroflowmetry; urodynamic testing; and cystoscopy.

Abdominal ultrasonography is a useful, non-invasive technique facilitated by CT scans to pinpoint the accurate diagnosis of obstructive uropathy (Fig. 5).

Despite the advancement of diagnostic modalities, it is still difficult to differentiate hydronephrosis from other abdominal cystic formations. There is a long list of differential diagnoses, which includes ovarian cysts, retroperitoneal haematoma, hepatobiliary cysts, mesenteric cysts, pseudomyxoma, cystic renal tumors, retroperitoneal tumors, ascites, and splenomegaly.

Conclusion

Of the diagnostic modalities employed in the evaluation of patients with extremely dilated urinary bladder, abdominal ultrasound is the method of choice for baseline investigation, followed by contrast-enhanced CT, MRI, and intravenous pyelogram.

The above-described case with an extremely dilated

urinary bladder is presented in order to draw the attention of diagnosticians because of the relative rarity of such pathologies.

References

1. Tazi MF, Riyach O, Ahallal Y, et al. Giant urinary bladder and bilateral giant hydronephrosis due to bladder neck obstruction: one case report and literature review. *Case Rep Urol.* 2012;2012:817519. doi: 10.1155/2012/817519.
2. Lameire N, Van Biesen W, Vanholder R. Acute renal failure. *Lancet.* 2005;365:417–430.
3. Zeidel ML. Obstructive uropathy. In: Goldman L, Schafer AI, editors. *Goldman's Cecil medicine.* 24th ed. chap 125 Philadelphia, PA: Saunders Elsevier; 2011.
4. Kasabe P, Jaykar RD, Wagh R. Clinical study of unilateral or bilateral noncalculus hydronephrosis and or hydroureter. *International Journal of Recent Trends in Science and Technology.* 2014;10(3):438–446.
5. McVary KT. Clinical evaluation of benign prostatic hyperplasia. *Rev Urol.* 2003;5(Suppl 4):S3–S11.
6. Fowler CG. The kidneys and ureters. In: Russell RCG, Williams NS, Bestrode CJK, editors. *Baily and Loves short practice of surgery.* 24th ed. London: Arnold international students edition; 2004. pp. 1313–1314.
7. Kasabe P, Jaykar RD, Wagh R. Clinical study of unilateral or bilateral noncalculus hydronephrosis and or hydroureter. *International Journal of Recent Trends in Science and Technology.* 2014;10(3):438–446.
8. Kasabe P, Jaykar RD, Wagh R. Clinical study of unilateral or bilateral noncalculus hydronephrosis and or hydroureter. *International Journal of Recent Trends in Science and Technology.* 2014;10(3):438–446.
9. McVary KT. Clinical evaluation of benign prostatic hyperplasia. *Rev Urol.* 2003;5(Suppl 4):S3–S11.
10. Eltahawy EA, Virasoro R, Schlossberg SM, McCammon KA, Jordan GH. Long-term follow up for excision and primary anastomosis for anterior urethral strictures. *J Urol.* 2007;177(5):1803–1806.