

Bilateral üreteropelvik, üreterovezikal bileşke darlığı ve posterior üretral valve birlikteliği: Olgu sunumu

The coexistence of bilateral obstruction at the ureteropelvic and ureterovesical junctions and posterior urethral valve: A case report

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Özet

4 yaşında erkek hasta, kliniğimize karın ağrısı ve üriner inkontinans şikayetleri ile başvurdu. Voiding sistoüretrografisinde (VCU) reflü saptanmadı. İntravenöz ürografide (IVU) bilateral grade 5 hidronefroz saptandı. Hastaya öncelikle, ilk operasyondan sonra devam eden posterior üretral valve problemi nedeniyle, posterior valve rezeksiyonu operasyonu uygulandı ve operasyondan sonra hastada postvoiding rezidüel volüm izlenmedi. Manyetik Rezonans Ürografi (MRÜ) sonucuna göre hastada bilateral Üreteropelvik (UP) ve üreterovezikal (UV) darlık izlendi. Sonrasında hastaya öncelikle bilateral üreteroneosistostomi (UNC) operasyonu uygulandı. Postoperatif 7. ayda hastaya sol pyeloplasti operasyonu uygulandı. Sonrasında sağ pyeloplasti operasyonu planlanan hasta kontrollere gelmedi.

Anahtar Kelimeler: Üreteropelvik bileşke darlığı, üreterovezikal bileşke darlığı, posterior üretral valve

Abstract

A 4 year-old male patient admitted with the complaints of abdominal pain and urinary incontinence. There was no reflux at micturition cystourethrography (MCU). And there was grade 5 bilateral hydronephrosis at intravenous urography (IVU). Firstly, we performed posterior urethral valve resection because after the first resection, the problem was persisting. After the operation, there was no postvoiding residual volume. According to magnetic resonance urography (MRU) urography; there were bilateral ureteropelvic (UP) and ureterovesical (UV) junction obstructions. According to these results, bilateral ureteroneocystostomy (UNC) operation was performed. On postoperative 7th month, we performed left pyeloplasty. And after that, we also planned pyeloplasty for the right side but the patient did not come for follow-ups.

Key Words: Ureteropelvic junction obstruction, Ureterovesical junction obstruction, posterior urethral valve

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Introduction

Ureteropelvic junction (UPJ) obstruction is a common reason of urinary tract obstruction in children and in adults of all ages.¹ The etiology of UPJ obstruction includes congenital and acquired conditions. Most cases are congenital and there are intrinsic and/or extrinsic causes with approximately 13,000 newborns each year in the United States diagnosed with this condition.²

A blockage at the junction of renal pelvis and the start of the ureter causes ureteropelvic junction obstruction. UPJ obstruction causes hydronephrosis and ultrasonog-

raphy is the most widely used technique for evaluating the kidney for hydronephrosis.³ Unfortunately the functional significance of the hydronephrosis can not be addressed by this modality.³ Similarly, computerised tomography (CT) and magnetic resonance urography (MRU) of the abdomen can identify hydronephrosis and a UPJ obstruction.³ Intravenous urography (IVU) and Mercapto Acetyl Triglycine-3 (MAG-3) scintigraphy are other useful techniques.³

Obstruction at distal end of the ureter, the ureterovesical junction (UVJ) obstruction, is another common

cause of hydronephrosis in children.⁴ This occurs with all degrees of severity and is bilateral in 15-40% of cases.^{4,5,6}

Obstructions at the UPJ and UVJ would be coexisting, but when there is coexistence, the presence of one, makes it difficult to detect the other problem.

In this case; we present a 4 year-old male patient with bilateral obstruction at the ureteropelvic and ureterovesical junctions and also posterior urtahral valve. According to the literature, this is the first case reported with these coexistence.

Case Report

A 4 year-old male patient admitted with the complaints of abdominal pain and urinary incontinence. The patient had a history of posterior urethral valve resection at the age of 4 months. Metabolic results were normal. There was infection according to the urinalysis result and anti-biotherapy was started. After antibiotherapy, there was no reflux on MCU (Figure 1). And there was grade 5 bilateral hydronephrosis on IVU(Figure 2). According to ultrasonography; bilateral renal paranchymas were 7 milimeters. We performed posterior urethral valve resection, because the posterior urethral valve problem was persisting. After the operation, there was no postvoiding residual volume. On postoperative second month, the patient came with the complaint of abdominal pain. Metabolic results were normal. There was infection according to the urinalysis result and Enterococcus spp. was isolated from the urine culture. And antibiotherapy was given according to the culture result. There was bilateral grade 5 hydnonephrosis on IVU. We performed cystoscopy and the ureteral orifices were not seen clearly.

After 3 months, there was bilateral ureterohydronephrosis and the renal paranchyma was normal. We performed diagnostic bilateral ureterorenoscopy. The ureteral catheter can not be pushed forward after 1 cm's of the distal part of ureters. MR urography, MAG-3 scintigraphy, Dimercaptosuccinic acid(DMSA) scintigraphy and urodynamic studies were planned. According to MRU results; there was bilateral UP and UV junction obstruction(Figure 3-4). We have performed bilateral ureteroneocystostomy (UNC) operation after these findings. On postoperative 6th day, the left ureteral catheter and on postoperative 10th day the right ureteral catheter was taken. The patient was discharged on postope-

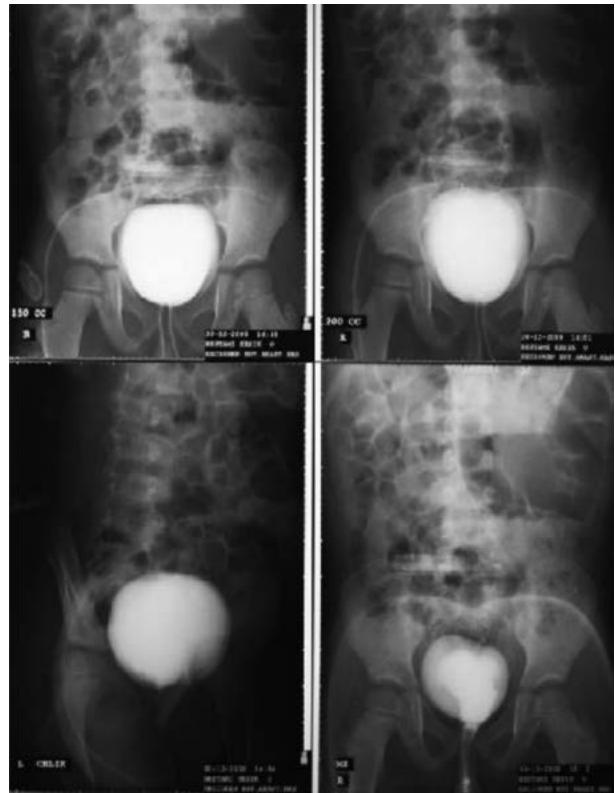


Figure 1: (Micturition Cystourethrography (MCU); there was no reflux)



Figure 2: (Intravenous Urography(IVU); bilateral grade 5 hydronephrosis)

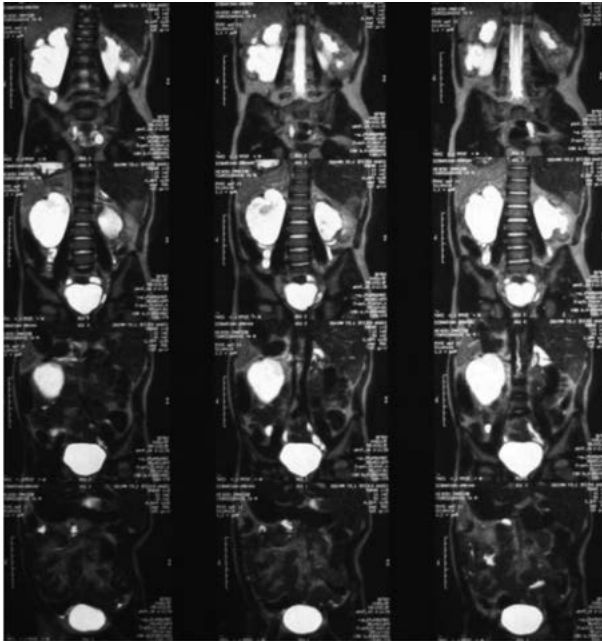


Figure 3: (MR Urography; bilateral obstruction at ureteropelvic and ureterovesical junctions)

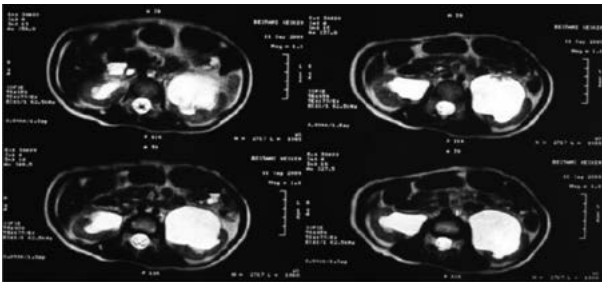


Figure 4: (MR Urography; bilateral obstruction at ureteropelvic and ureterovesical junctions)



Figure 5: (DTPA scintigraphy; the partial response to diuretic of left kidney) rative 12th day. After UNC operation, on postoperative 7th month, the patient came with urinary incontinance.

Urodynamic study results were normal. According to Diethylene triamine pentaacetic acid (DTPA) (Figure 5) and MAG-3 scintigraphy (Figure 6) result; there was partial response to diuretic of left kidney and the functions of the kidneys were; the left kidney 51% and the right kidney 49%. There was grade 5 hydronephrosis for left kidney on USG and the renal paranchyma was 4 mm. According to these results, we performed left pyeloplasty. On postoperative 4th day the drainage tube, on the 7th day urethral catheter and 9th day nephrostomy catheter was taken after nephrostography (Figure 7). On postoperative 12th day, the patient was discharged.

On postoperative 5th month, the patient came for routine follow-up. We planned USG and MAG-3 scintigraphy. The results were similar with the preoperative results. And after that we also planned pyeloplasty for the right side but the patient did not come for follow-ups.

Discussion

Obstructive uropathy, may be caused by congenital or acquired etiologic reasons. The congenital reasons include obstructions at different parts of urinary tract; ureteropelvic junction, proximal and middle ureter, distal ureter, bladder and urethra. And also the acquired reasons include extrinsic or intrinsic problems.

The coexistence of bilateral obstruction at the ureteropelvic and ureterovesical junctions and posterior urethral valve, is a rare entity. The diagnose of coexistence can not be made preoperatively for several reasons.⁷ The ureterovesical junction obstruction may mask the diagnose of the UPJ obstruction. And also the ureter may not be dilated due to the UPJ obstruction because so little contrast material reaches per unit time.⁷

Several techniques are used to detect these entities. Ultrasonography is most widely used technique and also computerised tomography (CT), magnetic resonance urography (MRU), intravenous urography (IVU) and MAG-3 scintigraphy are the other techniques.

The sequence of the operations must be determined according to the patient’s clinical status. In this case we firstly performed posterior urethral valve resection and after that, bilateral UNC was performed and finally left pyeloplasty was performed. We had also planned right pyeloplasty but the patient did not come for the follow-ups.

As a result, either ureteropelvic junction and uretero-

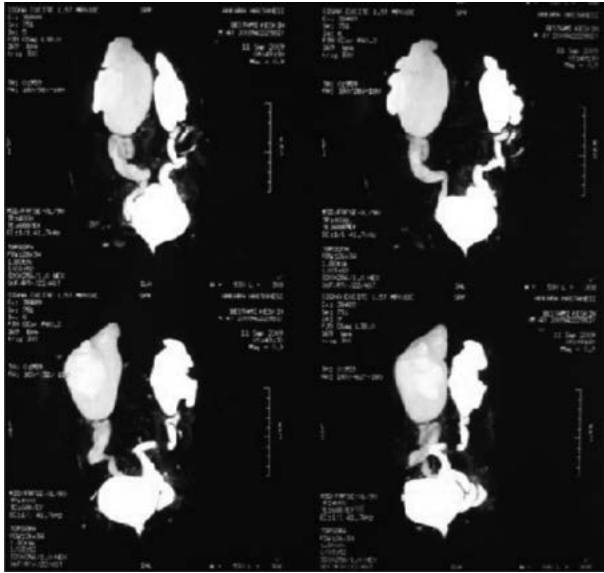


Figure 6: (MAG 3 scintigraphy ; the partial response to diuretic of left kidney, functions of the kidneys were; the left kidney 51% and the right kidney 49%.)



Figure 7: (Nefrostography; shows the passage on postoperative 9th day)

vesical junction obstructions are common causes of obstructive uropathy.^[7] the coexistence of these problems are unusual and simultaneous diagnose is mostly impossible.⁷

Several studies are necessary for simultaneous detection of obstructive reasons and the sequence of the operations. Also patient compliance, is another important factor for the therapy period.

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