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Case Report

Retroiliac ureter presenting as right upper ureteric obstruction – report of a rare case

Honderabalu Lingaraju Prasad, Vilvapathy Senguttuvan Karthikeyan*, Maregowda Shivalingaiah, Chandrashekar S. Ratkal

Department of Urology, Institute of Nephrourology, Victoria Hospital Campus, Bangalore -560002, India

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***Correspondence:**
Dr. Vilvapathy Senguttuvan Karthikeyan,
E-mail: sengkarthik@yahoo.co.in

ABSTRACT

Retroiliac ureter is an extremely rare urological entity in which the ureter passes deep to the iliac vessels. Congenital causes are most often secondary to vascular variants. A 39 year old lady presented with one month history of right loin pain. CECT showed right gross HUN till L3 and EC renogram showed 33% function in right kidney with obstructive pattern. RGP revealed Right Pelvic Ureteric Junction Obstruction (PUJO) obstruction, but at exploration was found to have retroiliac ureter. Ureteral division with anterior relocation and dismembered pyeloplasty was done. Anomalous vascular structures are often not diagnosed until surgical intervention for an obstruction of unknown etiology, unless vascular studies are considered, Most of these patients require surgical exploration to exclude tubercular stricture or malignant process.

Keywords: Retroiliac ureter, PUJ Obstuction, Hydroureteronephrosis

INTRODUCTION

Retroiliac ureter is an extremely rare urological entity with fewer than 30 cases reported. The ureter passes deep to the iliac vessels.[1] Congenital causes are most often secondary to vascular variants including retrocaval ureter and retroiliac ureter. We report a case of retroiliac ureter masquerading as tubercular stricture.

CASE REPORT

A 39 year old lady presented with one month history of right loin pain. Bilateral ureteric stenting and stent exchange twice for similar complaints in last one year and took anti tubercular therapy for six months. She had no comorbidities and clinical examination was unremarkable. Her hemoglobin was 12.4 g%, total leucocyte count was 7700/cmm and ESR was 10mm at 1 hour. Her renal function was normal (S. Creatinine: 0.9 mg/dL). CECT abdomen showed right gross hyrdonephrosis with proximal hydroureterosis (HUN), with abrupt narrowing of proximal ureter at the inferior margin of L3, suggesting stricture (Figure 1). Magnetic resonance urogram (MRU) showed right moderate HUN with grossly dilated ballooned out extrarenal pelvis with smooth narrowing of upper ureter probably secondary to upper ureteric stricture or low pelvic ureteric junction obstruction (PUJO) (Figure 2). Tc^{99m} Ethyl cysteine renogram showed enlarged hydronephrotic right kidney with moderate impaired function with pelvi calyceal and upper half of ureter dilatation and obstructed clearance (Figure 3) with 33% right and 67% left renal function. Intraoperatively, retrograde ureteropyelogram revealed suspicious right low PUJO. At exploration she was found to have retroiliac ureter (iliac vessels causing ureteral obstruction) (Figure 4), passing posterior to the iliac vessels approximately 3 to 5 cm distal to the aortic bifurcation. Ureteral division with anterior relocation and dismembered pyeloplasty was done. Double J stent was removed at 6 weeks. Patient is asymptomatic at one year follow up without recurrence.

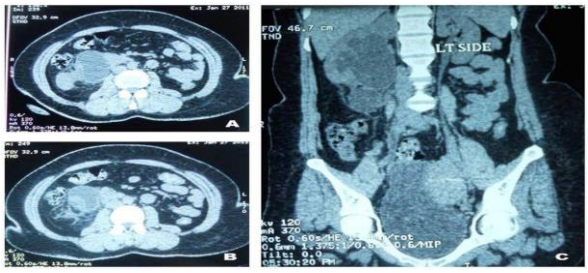

Figure 1: CECT abdomen showed right gross hydroureteronephrosis (HUN) with abrupt narrowing of proximal ureter upto L3 inferior margin suggesting stricture.

Figure 2: Magnetic resonance urogram showed right moderate HUN with grossly dilated ballooned out extrarenal pelvis with smooth narrowing of upper ureter probably secondary to upper ureteric stricture or Low PUJO.

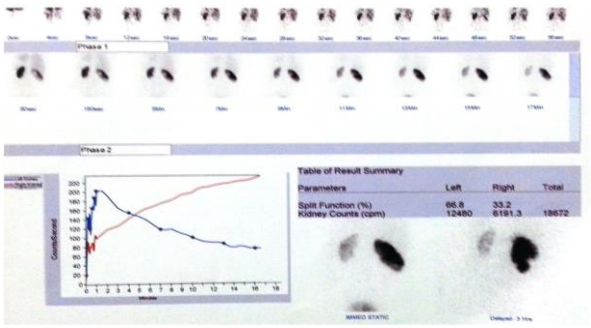

Figure 3: Tc^{99m} Ethyl cysteine renogram enlarged hydronephrotic right kidney with moderate impaired function with pelvicalyceal and upper half of ureter dilatation and obstructed clearance.

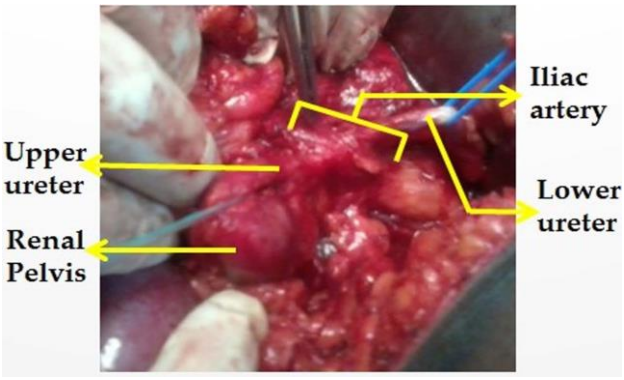

Figure 4: Intraoperative picture showing retroiliac ureter causing upper ureteric obstruction.

DISCUSSION

Several vascular abnormalities lead to ureteric obstruction. Retroiliac ureter is an infrequent congenital condition that causes ureteric obstruction with less than 30 cases reported.[2] Retroiliac ureter is considered to be of vascular origin.[1] Normally, the primitive ventral root of umbilical artery is replaced by development of a more dorsal branch between the aorta and distal umbilical artery. The persistence of this ventral root as the dorsal root fails to form, traps the ureter dorsally.[1] Retroiliac ureter is caused by the development of the iliac vessels from the anterior branch of the umbilical artery, instead of the normally dorsal branch. The ureter can be compressed by iliac vessels causing hydronephrosis. Obstruction occurs at the level of L5 or S1 as the ureter is compressed behind the artery. Coexisting anomalies are common, particularly vasal anomalies.[2,3]

Nguyen et al reviewed the report of retroiliac ureters and found 24 cases, among which 4 cases were bilateral.[2] Preoperative radiologic diagnosis of retroiliac ureter usually complicated and depends on a high level of suspicion. Till date all reported cases have been shown during surgery or during indirect imaging finding on excretory urography and angiography without concurrent visualization of obstructed ureters and vessels.[3] Though it is a congenital anomaly our patient presented in the third decade of life with flank pain and features of ureteric obstruction. Treatment is surgical and involves division of ureter and anterior relocation and anastomosis.[1,2] In our case, since the renal pelvis was grossly dilated, anterior relocation and dismembered pyeloplasty was done.

CONCLUSION

Retroiliac ureter creates a diagnostic dilemma. Anomalous vascular structures are often not diagnosed until surgical intervention for an obstruction of unknown etiology, unless vascular studies are considered. Most of these patients require surgical exploration to exclude tuberculous stricture or malignant process.

REFERENCES

1. Wein AJ. Ectopic ureter, ureterocele and ureteral anomalies. Campbell - Walsh Urology, 10th edition., Philadelphia: Elsevier Saunders 2011:3265.
2. Nguyen DH, Koleilat N, Gonzalez R. Retroiliac ureter in a male newborn with multiple genitourinary anomalies case report and review of literature. J Urol. 1989;141(6):1400-3.
3. Ameur A, Lezrek M, Jira H, Menfaa M, Boumdin H, Beddouch A. Retro-iliac ureter associated with ipsilateral megaureter. Prog Urol. 2002;12(6):1291-3.

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