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Unilateral Incomplete Bifid Ureter with UPJ Syndromes: A Case Report

A. M. Moustapha[1*], R. Aitouali[1], A. Abouqadoum[1], M. A. Lakmichi[1], Z. Dahami[1], I. Sarf[1]

[1]Department of Urology - University Hospital Mohammed the VI[th], Medical school of Marrakech, Cadi Ayyad University, Marrakech, Morocco

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***Corresponding author:** A. M. Moustapha
Department of Urology - University Hospital Mohammed the VI[th], Medical school of Marrakech, Cadi Ayyad University, Marrakech, Morocco

Abstract **Case Report**

Introduction: The ureters are muscular tubes that extend from the kidneys to the urinary bladder. The urine is propelled along the ureter by peristaltic contraction of the muscle coat, assisted by the filtration pressure of the glomeruli. Bifid ureter (BU**)** are rare congenital anomalies. Is a condition in which the ureter is duplicated, and it can be classified into complete (when they join separately at the urinary bladder) or incomplete –Y ureter- (When they fuse at some point in their trajectory). In the literature, the prevalence of duplicated ureter approximately 0.8%. ***Case:*** A 39-year-old woman was presented with history of chronic right-side flank pain and not associated with other urological symptoms. Physical examination revealed right flank tenderness and normal renal function test; urine culture was negative. Contrast- enhanced computed tomography showed right bifid ureters associated with moderate right hydronephrosis with a fine ureters evoking ureteropelvic junction syndromes (UPJ). Cystoscopy with retrograde pyelography revealed a right bifid ureter. The patient consented to open surgery by right mini-incision lombotomy (pyelotmy and anastomos peylo-ureteal latero-lateral) which is after a double-J ureteral stent was placed in the normal right ureter. The postoperative follow up was good. ***Conclusion:*** The BU with ureteropelvic junction syndromes are rare congenital anomalies. It is very important to diagnose urinary tract anomalies prior to interventions and supplementary evaluations should be considered. Retrograde pylogram can be a good tool than intravenous pylogram to detect such anomaly. The management can be open or laparoscopic.

Keywords: The ureters, kidneys, urinary bladder, Bifid ureter (BU), Retrograde pylogram, Cystoscopy.

1. INTRODUCTION

The ureters are mascular tubes that extend from the kidneys (renal pelvis) to the posterior surface of the urinary bladder. The urine is propelled along the ureter by peristaltic contraction of the muscle coat, assisted by the filtration pressure of the glomeruli. Each ureter measures about 25 cm long [1].

Bifid ureter (BU) are rare congenital anomalies. Is a condition in which the ureter is duplicated, and it can be classified into complete (when they join separately at the urinary bladder) or incomplete –Y ureter- (when they fuse at some point in their trajectory) [2].

In the literature ureteral duplication described in approximately 1 in 125 people (0.8%). It is more common in women. Unilateral duplication is six times more common than bilateral and left side is more commonly involved [3].

It can be associated with other anomalies, such as horseshoe kidney, renal ectopy, H shaped ureter, ureterocele, megaureter and uretero-pelvic junction obstruction and Vesico-ureteral reflux is the most common form BU manifestation [4]. We report a case of Unilateral incomplete bifid ureter with ureteropelvic junction obstruction (UPJ) syndromes that treated open surgery.

2. CASE REPORT

A 39-year-old woman was presented with history of chronic right-side flank pain and not associated with other urological symptoms. Physical examination revealed right flank tenderness. Renal function tests, complete blood count was normal; urine culture was negative. Contrast- enhanced computed tomography (CCT) showed right bifid ureters associated with moderate right hydronephrosis with a fine ureters evoking ureteropelvic junction syndromes. Cystoscopy with retrograde pyelography revealed a

right bifid ureter. The patient consented to open surgery by right mini-incision lombotomy (pyelotmy and anastomos peylo-ureteal latero-lateral) which is after a double-J ureteral stent was placed in the normal right ureter. Postoperative follow up was good and patient discharged without any complications. The double-J ureteral stent was removed after 5th weeks.

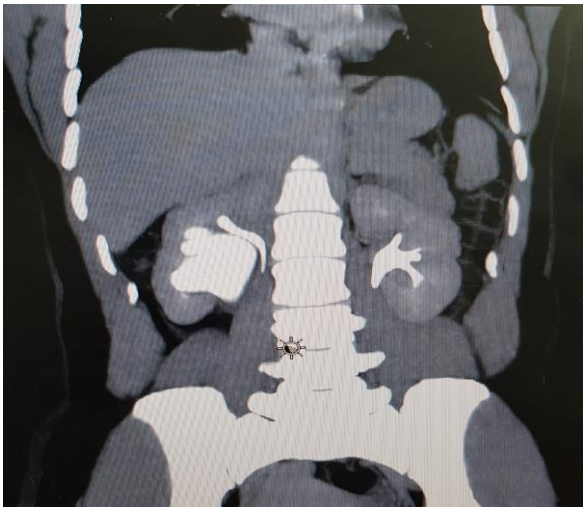

Figure 1: CCT showed right bifid ureters associated with moderate right hydronephrosis

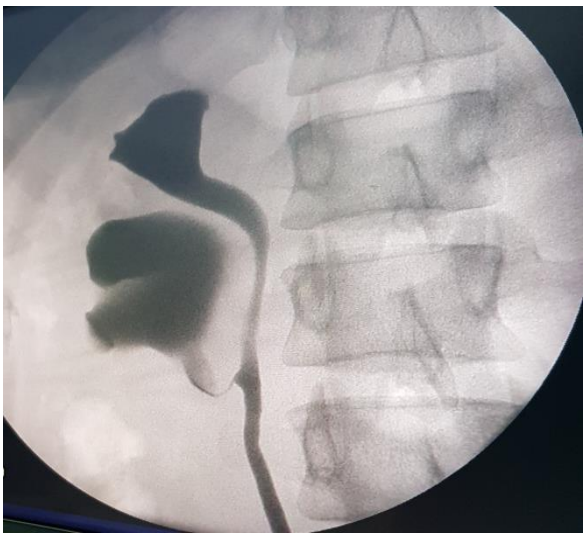

Figure 2: Retrograde pyelography revealed a right bifid ureter

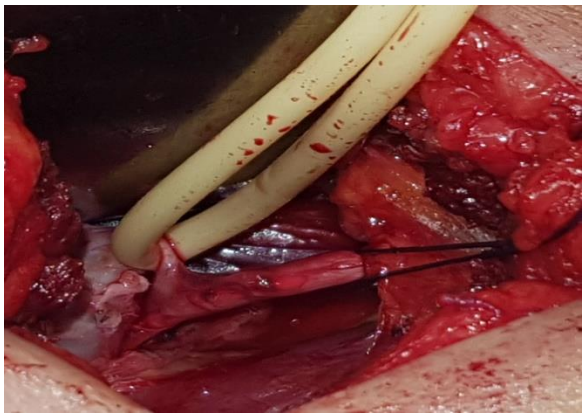

Figure 3: Inrtaoperative show bifid ureter in Y Shape

3. DISCUSSION

Unilateral ureteral duplication has been reported 0.8% in American autopsies, while bilateral

ureteral duplication is rarer and includes 20–40% of all ureteral duplications [5]. The etiology of ureteral duplication in the majority of cases is due to premature splitting of ureteral buds, remnants of wolfian duct and in some cases because of the presence of two separate ureteral buds [5]. Genetic penetrance of ureteral duplication is incomplete and autosomal dominant and the highest prevalence has been reported in Caucasian females [5]. The clinical presentations of ureteral duplication are various and age-related. In the majority of cases with bifid ureters, the patients are asymptomatic and usually are diagnosed accidental [6]. The most common clinical presentation of ureteral bifid is recurrent UTI in children and VUR, flank pain and obstruction in adults [6] (like our case). Stone formation is a potential comorbidity affects adults with ureteral duplication [6]. Retrograde pylogram can be a good tool than intravenous pylogram to detect such anomaly. (HAWTHORNE, 1936) [4]. IVP can distinguish complete and partial ureteral duplication. IVP despite sonography, can demonstrate the renal function but spiral CT urogram and magnetic resonance imaging (MRI) much better can reveal the site of ureteral orifices [5]. The present case is a rare case of unilateral incomplete ureteral bafid with symptomatic UPJ obstraction.

4. CONCLUSION

The BU with ureteropelvic junction syndromes are rare congenital anomalies. It is very important to diagnose urinary tract anomalies prior to interventions and supplementary evaluations should be considered. Retrograde pylogram can be a good tool than intravenous pylogram to detect such anomaly. The management can be open surgery or laparoscopic.

REFERENCES

1. Snell clinical anatomy 9th edition.
2. Bailey & Love's short practice of surgery 27th edition.
3. Campbell-Walsh-Wein Urology-twelfth edition.
4. Kumar, V., & Remya, V. (2015). Unilateral incomplete bifid ureter: a case report. *Journal of Morphological Sciences*, *32*(03), 203-205. http://dx.doi.org/10.4322/jms.077414
5. Scantling, D., Ross, C., & Altman, H. (2013). A 52-year-old male with bilaterally duplicated collecting systems with obstructing ureteral stones: a case report. *Current urology*, *7*(2), 104-106.
6. Sen, V., Aydogdu, O., Yonguc, T., Bozkurt, I. H., Polat, S., & Basmaci, I. (2015). Endourological treatment of bilateral ureteral stones in bilateral ureteral duplication with right ureterocele. *Canadian Urological Association Journal*, *9*(7-8), E511-E513.