

Complete Ureteral Duplication with Ureterocele Formation in An Adult Women

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Abstract

Duplication of renal collecting system is a rare anomaly of urinary tract with an incidence of 0.5-3%. Complete duplex ureters that open into the urinary bladder separately is extremely rare. Complete duplication may be result of two ureteral buds from single mesonephric duct. We report a case of unilateral complete ureteral duplication with ureterocele formation in a 41 year old woman presented with abdominal pain.

Introduction

Duplex renal system is described as the kidney has two pyelocaliceal systems with single, bifid (partial ureteral duplication) or double ureter (complete ureteral duplication) draining into the bladder [1]. The incidence of duplex renal system ranges from 0.5-3%. Complete ureteral duplication is more rarely seen when compared to single ureter or partial duplication. The patients with complete ureteral duplication have other congenital anomalies such as short lower moiety intramural ureter causing vesicoureteral reflux or upper moiety ureter with a ureterocele [2]. Here we report a case of complete duplication of ureter with ureterocele in an adult women.

Case

A 41 year old woman presented with abdominal pain during one month. The ultrasonographic imaging showed mild hydronephrosis in right kidney and cystic lesion in bladder that suspected ureterocele. Intravenous urography was done but double ureter was not visualized because of hypofunctional kidney. Cystoscopy was revealed the cystic lesion near the right ureteral orifice (Figure 1). Retrograde pyelography was showed lower pole of the kidney (Figure 2). Transurethral resection was performed and second ureter was visualized (Figure 3), double j stent and ureteral catheter was inserted separately (Figure 4). No complication was occurred in perioperative and postoperative period. The patient

was discharged one day after the operation and has no complaint during two months follow up.

Discussion

Ureteral duplications are the result of premature splitting of the ureteric bud, a remnant of the Wolffian duct [3]. Partial duplication is observed in metanephric tissue that has not separately fully, but complete duplication may be result of two distinct ureteric buds. Complete duplication is approximately one third as common as partial duplication. Weigert Mayer law is observed in complete ureteral duplication cases [4]. The ectopic ureter arises from upper moiety is inferior and medial as compared to the lower pole moiety's ureter may have ureterocele formation. Ureterocele is described as congenital pseudocystic dilatation of the intravesical ureter that results from a malformation of the submucosa of the bladder [5].

Presentation of duplication is variable and highly dependent on age. The patients can present with repeated urinary tract infections, hematuria, abdominal or flank pain [5]. Approximately, half of the patients with duplication identified prenatally and present with repeated urinary tract infections and 10% of the children with such infections have this condition. In adults, vesicoureteral reflux and recurrent infections are main symptoms.

The ureterocele sometimes prolapsed into the urethra that resulted bladder outlet obstruction with acute urinary retention [4]. Conservative management or endoscopic treatment is the first choice therapy in infancy. The other treatment modalities are transurethral resection and heminephrectomy with upper ureterectomy [5]. In this study the patient that was diagnosed with ultrasonography and treated with transurethral resection. The clinicians should be kept in mind that complete ureteral system can be diagnosed in adult patients with non specific symptoms.

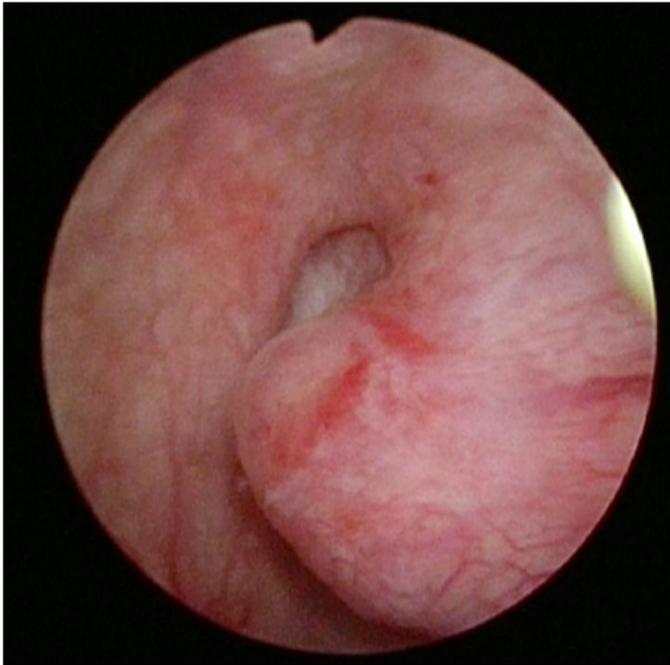


Figure 1: Endoscopic image of the ureterocele

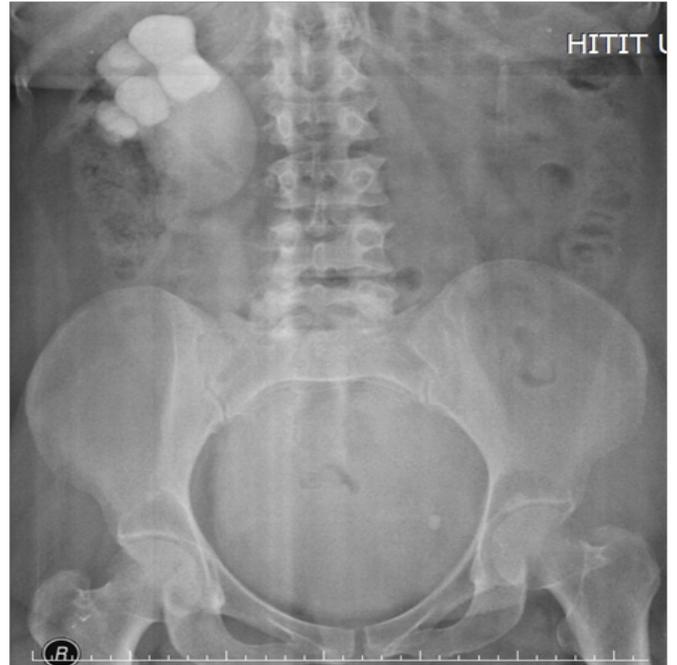


Figure 2: Lower pole of the kidney visualized by retrograde pyelography



Figure 3: Image of the medial orifis after resection

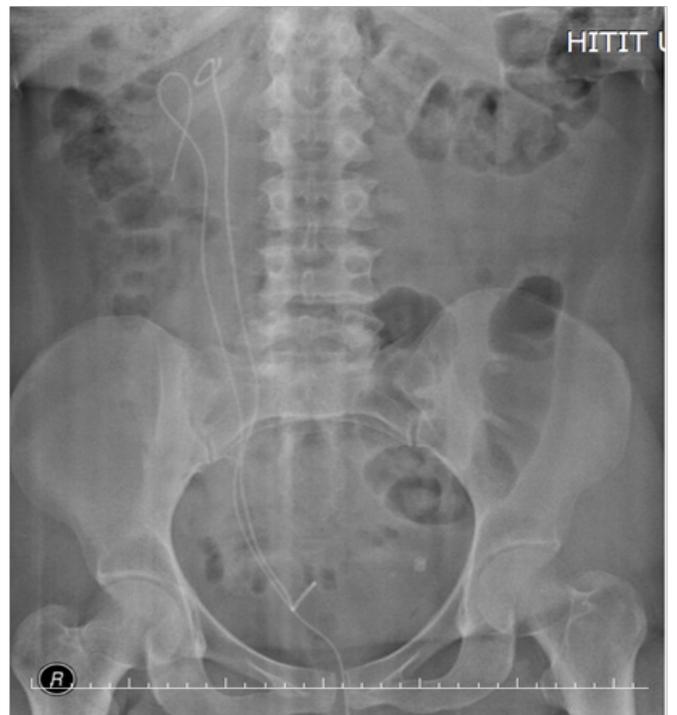


Figure 4: Double j stent and ureter cathater were inserted seperately

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