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Case Report

Managing Ureterocele in a Teenage Girl-Case Report

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Abstract

Ureterocele is a rare condition where in there is a cystic dilatation of terminal ureter accompanied with presence of tissue defect in the urinary bladder, bladder neck or may even be extending into the posterior urethra. Its incidence is approximately 1 in 4000 live births. A 20 year-old unmarried girl presented to clinic came with left flank pain, dysuria, urgency, frequency and nocturia which was severely disturbing her sleep and overall quality of life. She was diagnosed with ureterocele and subsequently managed with endoscopic laser ablation.

In developing nations many children go on undiagnosed hence long-standing complications are frequently seen in such undiagnosed cases. Hence, early diagnosis in children needs a high index of suspicion.

Keywords: *Ureterocele; Urinary Tract Infection; Nocturia*

Introduction

Ureterocele is condition where there is a cystic dilatation of terminal ureter accompanied with presence of tissue defect in the urinary bladder, bladder neck or may even be extending into the posterior urethra. There is association of bladder muscle defect (variable degree) and renal parenchymal abnormality. Its incidence is approximately 1 in 4000 live births [1]. Nowadays availability of ultrasonography (USG) mode of investigation has allowed detection of antenatal and even asymptomatic ureterocele more frequently. Clinical presentation is in form of recurrent urinary tract infection (UTI) in most of cases after birth in those where its diagnosis has been delayed. A 20 year-old unmarried girl presented to clinic came with left flank pain, dysuria, urgency, frequency and nocturia which was severely disturbing her sleep and overall quality of life.

In developing nations many children go on undiagnosed hence long-standing complications are frequently seen in such undiagnosed cases [2,3]. Having said that, early diagnosis in children needs a high index of suspicion.

Case Report

A 20 year-old unmarried girl presented to clinic came with left flank pain, dysuria, urgency, frequency and nocturia which was severely disturbing her sleep and overall quality of life. To our surprise she was asymptomatic throughout her childhood and had started feeling left flank pain intermittently for last three years. Furthermore, recent increase in urgency and frequency of urine were distressingly aggravating her condition. Interestingly she had no attacks of fever, vomiting or colicky flank pain which could direct to some infective or obstructive pathology in left side ureter or kidney. She denied having experienced any bout of recurrent urinary tract infection, dysuria, and passage of urinary calculi or painful hematuria. Furthermore, she denied any history of recent or remote past regarding any trauma to flank or pelvic region or any gynecological or urological procedure.

Physical examination was unremarkable with vitals in normal ranges and was afebrile. Examination of external genitalia was also unremarkable without any sign of urethral stenosis. Urine culture was negative. Blood investigation results demonstrated hemoglobin level at 11.6 gram/dl, white cell count 7212/microliter, platelets 312000/microliter of blood. Hepatitis B and C profile was negative. While serum electrolytes were within normal range and serum creatinine was 1.03 mg/dl. Urine culture was negative. Ultrasonography KUB demonstrated slight left pelvicalyceal fullness and a cystic dilatation in left distal ureter pointing towards left small ureterocele. Rest of the abdominal organs and adnexal structures were normal. Computed tomography also depicted left distal ureter cystic dilation confirming the ureterocele suspicion (See figure 1 and 2).

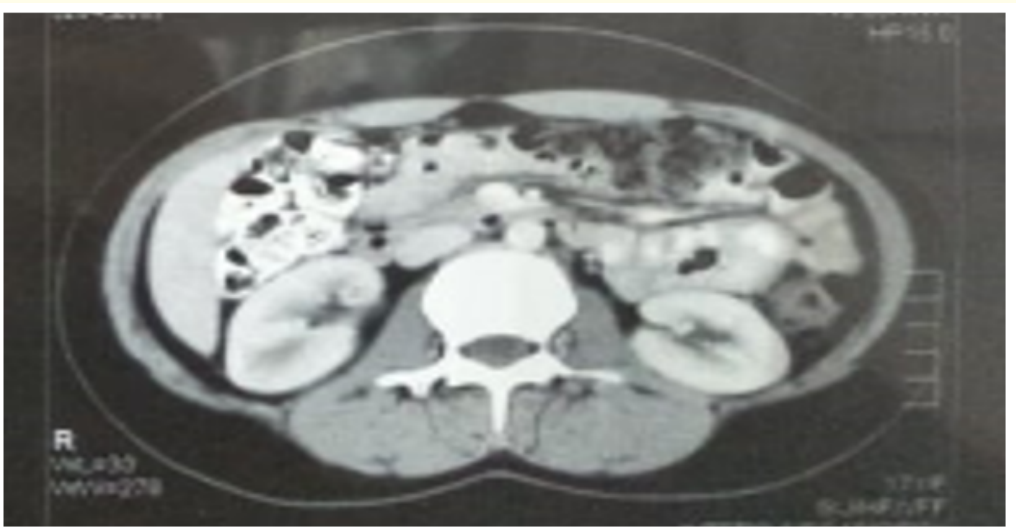

Figure 1: *Computed tomography axial view showed minimal fullness of left pelvicalyceal system.*

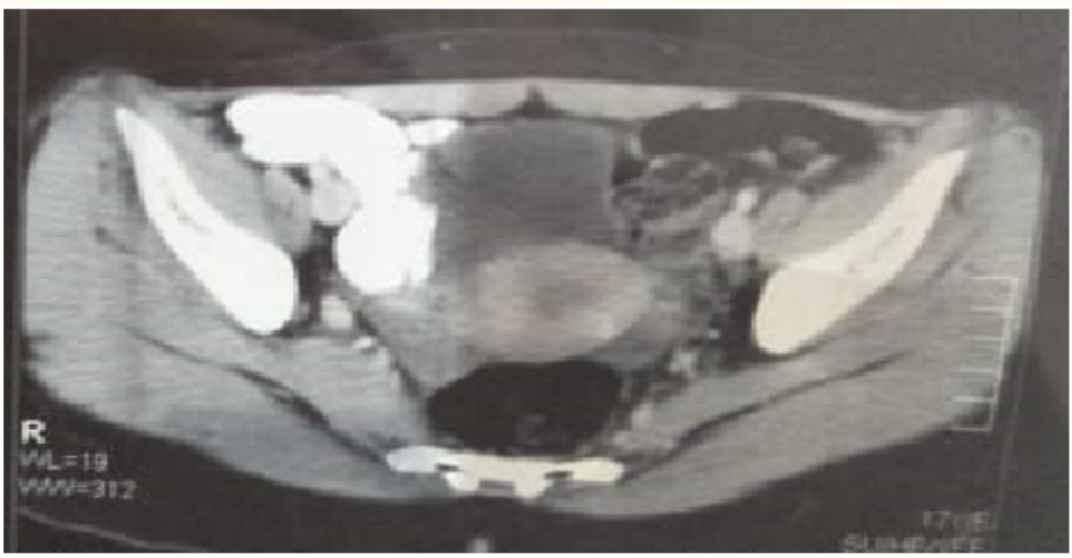

Figure 2: *Computed tomography coronal view showed left ureterocele impression inside urinary bladder.*

Condition was discussed with patient in detail and explained to her that her symptoms may persist after incision of ureterocele. After getting informed consent Lithotomy position was made and under general anesthesia cystoscope was inserted and then left ureterocele was ablated with laser (See figure 3 and 4). Left retrograde pyelography was done and double J stent was passed. Double J stent was removed after 4 weeks. Patient recovered well post operatively. She was followed up in clinic with improvement in her flank pain and the urinary symptoms.

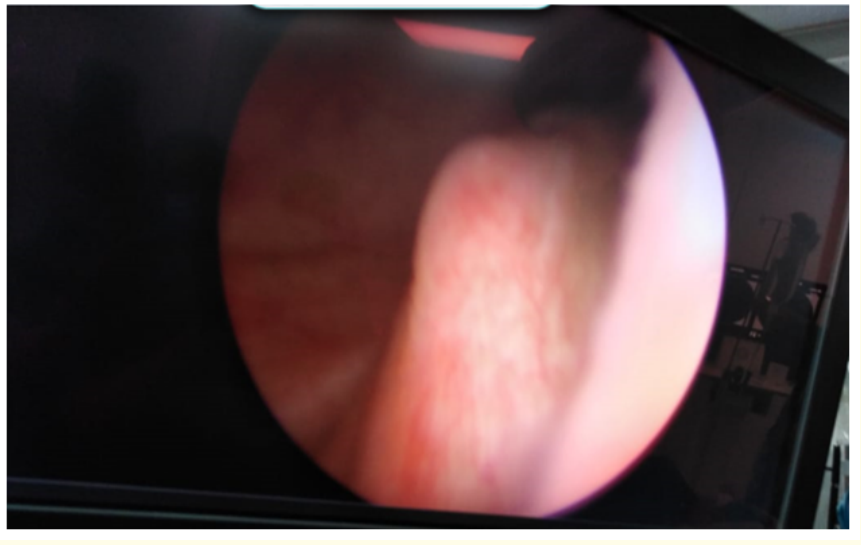

Figure 3: *On cystoscopy view see the bulge of ureterocele.*

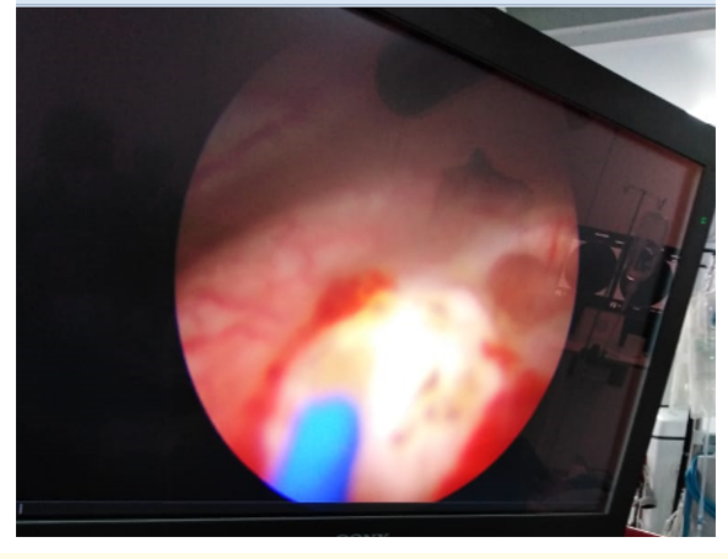

Figure 4: *On cystoscopy view, the bulge of ureterocele is ablated with laser.*

Discussion

Ureterocele is a congenital anatomical defect manifesting wherein distal segment of the ureter is swollen just like a balloon at its entry point into the wall of the urinary bladder. It results in the ureteral opening to be very narrow that can lead to obstruction of urine flow. This obstructive phenomenon can affect both renal function and development [4]. Other than congenital type is an acquired type which is also a rare entity and mostly seen in adults. Acquired type is often associated with other conditions such as presence of an impacted stone, stone passage or history of previous surgeries [5,6].

Furthermore, it is classified as single or duplex system and acquired or congenital. Patients having ureterocele may have varied clinical picture. Their symptoms may be in form of attacks of urinary tract infection, urinary obstructive symptoms, burning micturition or even incontinence [6-8]. Sometimes there is absence of flank pain history or urinary tract infections and in that case it may be an indication of milder form of urinary tract obstruction.

For diagnosis of ureterocele, radiologic imaging such as excretory urography and ultrasonography are used extensively [3,7]. Excretory urography helps in identification of the duplex system, ureteric obstruction and a cystic dilatation of ureterocele in the bladder [6-8]. Apart from this Voiding cystourethrography (VCUG) and dimercaptosuccinic acid scan (DMSA) can be utilized for evaluation of reflux grades (if present) and split renal function. Patient in this case had no symptoms since childhood and had sudden onset of flank pain on left side. It was accompanied by dysuria, nocturia and urgency without urge incontinence. There was mild pelvicalyceal fullness and a cystic dilatation in left distal ureter pointing towards left small ureterocele. Rest of the abdominal organs and adnexal structures were normal. Computed tomography also depicted left distal ureter cystic dilation confirming the ureterocele suspicion.

Single system ureterocele is a rare entity in adult age patients. In such cases it is frequently associated with preserved ipsilateral renal function and minimal hydronephrosis. At times it may be complicated with urinary calculus leading to obstruction, infection and even loss of renal function if not treated in time. In present case there was no stone in ureter. Managing a case of ureterocele should be guided by the primary aim of symptoms resolution and renal function preservation [9,10]. There are many approaches ranging from conservative treatment strategy to endoscopic decompression. Some cases may need ureteral reimplantation or concomitant partial nephroureterectomy, or even complete primary reconstruction. Choosing any of these modalities is determined by factors such as patient's age, split renal function and overall renal function, presence of double or single collecting system, presence of reflux or obstruction, ectopic or orthotopic ureterocele. Above all the preferences of the patient and capabilities of surgeon shall determine a particular procedure. In present case patient underwent general anesthesia and cystoscope was inserted. Then left ureterocele was ablated with laser. Left retrograde pyelography was done and double J stent was passed. Double J stent was removed after 4 weeks. Patient recovered well post operatively. She was followed up in clinic with improvement in her flank pain and the urinary symptoms.

Conclusion

Ureteroceles may manifest in late teen at times with sudden onset of lower urinary tract symptoms however endoscopic laser ablation may decompress the ureterocele and subsequent symptoms resolution. Endoscopic approach with laser ablation can be used safely yielding satisfactory outcomes in managing ureteroceles.

Financial Support

None.

Conflicts of Interest

None.

Informed Consent

Taken from patient regarding whole procedure.

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