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Ureterocele in lower moiety of duplicated draining system a rare case

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Abstract

Ureterocele is dilatation of lower ureter at its entry into urinary bladder. It is classified as single or duplex system and acquired or congenital. Acquired type is commonly seen in adults. Duplicated ureters are often associated with an obstructed upper pole moiety and a refluxing lower pole moiety. In our case report adult type simple ureterocele is presented in lower moiety of duplex system with impacted calculus. Because of rarity of the presentation and diagnosis of the condition, urologist need to be aware of etiology and appearance. Treatment options depend on the extension of the ureterocele, obstruction to draining system. Since few cases have been reported in literature, clinicians need to have understanding and orientation towards diagnosis, investigations and treatment of this condition.

Keywords: Ureterocele, duplex system, adult type ureterocele

Introduction

Ureterocele is dilatation of lower ureter at its entry into urinary bladder. It occurs due to incomplete dissolution of Chwallas' membrane. It is classified as single or duplex system and acquired or congenital. Acquired type is commonly seen in adults. It is associated with pathologies like impacted stone, schistosomiasis. Ureteral duplication anomalies are seen in 1 In 125 live births ^[1]. Duplicated ureters are often associated with an obstructed upper pole moiety and a refluxing lower pole moiety. Ectopic ureterocele typically arise from the upper pole moiety and are common in paediatric population ^[2]. Condition could be completely asymptomatic. The patient may present with pain radiating from flanks, associated with lower UTI problems, incontinence, urinary tract calculus and urethral prolapse. Diagnosis of ureterocele is confirmed by its radiological appearance.

Diagnosis may be made with ultrasonography in perinatal period or in early childhood. In adults intravenous urography demonstrates dilated distal ureter, appearing as a "cobra head" or "spring onion" deformity with peripheral hollows. Renal functions are also confirmed on DMSA, DTPA or MAG 3 scans. Adults presenting with symptoms of obstruction are treated to relieve obstruction, either endoscopically or open ^[3]. Endoscopic incision and marsupialization would relieve the obstruction and preserve renal function.

Case report

70 year man presented with left flank pain radiating to testicles. He did not have vomiting, hematuria or burning sensation during micturition. There was no similar complain in the past. There was no previous surgery performed. There was no associated medical illness. No other person in the family presented with similar complain. His vitals were stable. His abdominal examination revealed tenderness in left renal angle. External genitalia were normal on examination. Intravenous urogram performed revealed hydronephrosis and hydroureter of lower moiety of duplicated collecting system on left side. There was impacted calculus in ureterocele with another calculus in bladder. Kidneys were normally functioning on both sides. (Fig. 1) His laboratory investigations were within normal range with moderately raised serum urea and creatinine values. The operation was performed to remove impacted calculus. Endoscopic incision and marsupialization was done for intravesical ureterocele.

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Fig 1: Radiograph showing ureterocele and hydronephrosis of lower moiety of duplicated draining system.

Discussion

Ureterocele is classified based on development as single system or duplex system. Mandell *et al.* proposed a classification based on features of an affected ureteral orifice. American association of pediatricians has standardized terms, intravesical and ectopic according to extension into bladder, single or duplex system and in terms of orifices. Its incidence is 1:4000 children, common in Caucasians with female preponderance. Single system ureterocele is common in adults. It presents with other pathologies so it is also called as acquired type. In duplex system ureterocele, upper moiety is common^[4]. In our case report adult type simple ureterocele is presented in lower moiety of duplex system with impacted calculus.

Intravenous urography showing complete duplication of left ureter both inserting in bladder. Lower moiety with hydronephrosis and hydronephrosis is seen. Ureterocele seen in the lower end of ureter with a calculus. Upper moiety is inserting into bladder normally. One more calculus is seen in the lumen of the urinary bladder.

Since our case presented with calculi, it was treated with endoscopic incision and marsupialization of ureterocele with ureteroscopic retrieval of stone with checking patency of the ureters under fluoroscopic guidance. Decision regarding further treatment like re-implantation for reflux and nephrectomy in case of dysplastic or nonfunctioning kidneys is required. In case of reimplantation upper moiety is reimplanted in upper part and lower moiety is re-implanted in lower part of bladder. In our case renal function was intact and obstruction was removed, no further intervention is required.

Because of rarity of the presentation and diagnosis of the condition, urologist needs to be aware of etiology and appearance.

Treatment options depend on the extension of the ureterocele, obstruction to draining system. Since few cases have been reported in literature, clinicians need to have understanding and orientation towards diagnosis, investigations and treatment of this condition.

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