ORIGINAL RESEARCH PAPER

Paediatric

PRESENTATION OF RETROCAVAL URETER IN PEDIATRIC AGE GROUP - A RARE CASE REPORT.

KEY WORDS: Retrocaval Ureter , Circumcaval Ureter , Rare Renal Anomaly

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ABSTRACT

Urogenital anomalies in paediatric age groups are common and mostly detected during antenatal fetal scans. But there are certain renal anomalies like Retrocaval Ureter , which is a rare congenital anomaly and presents in 3rd to 4th decade of life (1) . Herewith reporting a rare case of retrocaval ureter in 4 years male child who presented with persistent hydronephrosis and loin pain. It is advisable to keep high suspicious approach for rare presentations of congenital approach in paediatric cases.

INTRODUCTION

Retrocaval ureter is also known as Cirumcaval ureter. The incidence is reported to be approximately 1:1000 with male predominance (2). It usually present with loin pain secondary to gross hydroneprosis caused due to kinking of ureter along the inferior vena cava(IVC). It is common o right side and rarely on left side if associated with Inferior vena cava anomalies like duplication of IVC. Surgical correction is indicated for symptomatic cases which involves transaction and relocation of ureter in front of inferior(3) . Herewith reporting a rare case of retrocaval ureter in 4 years male child who presented with persistent hydronephrosis and loin pain. The objective of this case report is to keep a high suspicious approach for unusal presentations of rare congenital anomalies in children to prevent future complications and early treatment.

CASE REPORT

4 years old male child was brought one year back with complaints of intermittent loin pain on right side noticed since last few weeks .There were no any other systemic complaints. Incidentally there was evidence of right side moderate hydronephrosis with antero-posterior diameter 13 mm on sonological evaluation and left kidney was normal. Both ureters were normal. General and systemic examination were normal. Haematological workup was normal. No signs of urinary tract infection were noted. DTPA renal scan was suggestive of preserved parenchyma function and GFR with non obstructive hydronephrotic right kidney and left kidney was normal. Patient was kept under observation as there was normal drainage pattern on DTPA Renal Scan. As patients presented with similar complaints in 4 months , Micturating cystourethrogram was done showing grade 1 reflux on right side. On Computed tomography intravenous pyelogram(CT-IVU) with 3 D reconstruction images revealed right side moderate hydronephrosis with kink of upper ureter at upper 1/3rd part suspecting retrocaval ureter. On sonological evaluation right side hydronephrosis was similar as before.

Surgical repair was planned in view of recurrent symptoms and suspected retrocavcal ureter on 3D images of CT-IVU. Cystoscopic DJ Stent insertion was done before starting operation and confirmed under C- Arm guidance showed kink in Guide wire course. Open surgical intervention was done through Right upper abdominal transverse incision. On exploration the right ureter was found to dip behind the inferior vena cava creating kink at upper ureter and causing hydronephrosis. After kink , lower ureter had normal anatomical course. The entire upper ureter was mobilized and dissected & brought anterior to in the inferior vena cava and placed in its normal position. Antegrade 3 French DJ Stent insertion was done in distal ureter over a guide wire and position was reconfirmed under C- ARM guidance. End to end uretero-ureteral anastomosis over 3 french Dj stent was done & wound closed in layers keeping drain in situ. Drain was removed after 3 days. Foleys catheter was kept for 2 weeks in view of grade 1 reflux on same side before surgery to prevent pressure effects on anastomosis. Postoperative course was uneventful. Cystoscopic stent removal done 4 weeks later. 3 months postoperative USG revealed a residual hydronephrotic changes in right kidney of hydronephrosis. Child doing well on further 6 months follow-up.

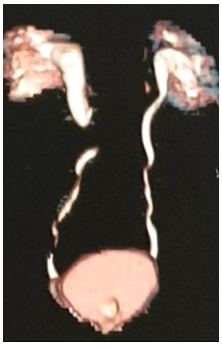

Figure – 1

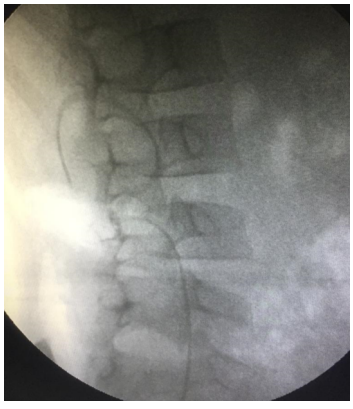

Figure - 2

Figure – 3

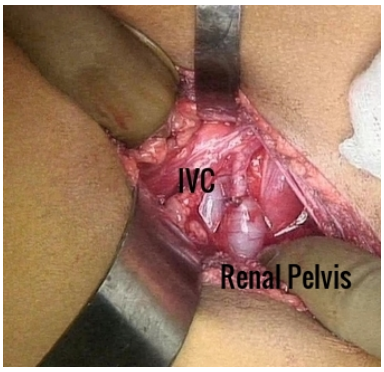

Figure -4

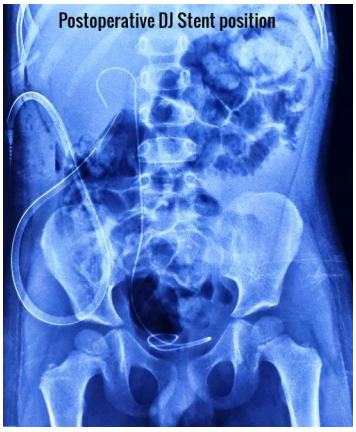

Figure -5

DISCUSSION-

As retrocaval ureter is very rare to present in pediatric age group so very few cases got reported in literature. The first case was described by Hochstetter in 1893 [4,5] when on autopsy retrocaval ureter was seen. The prevalence of the disease is reported to be 1 in 1100 live births. It mostly manifests itself in the third or fourth decade, and occurs three times more frequently in men than in women [6]. Its etiology is presumed to be the abnormal embryological development of IVC which is formed from the subcardinal vein that lies ventral to the ureter [7]. Clinically Patients usually present with to right flank pain, urinary tract infections, and hematuria but rarely associated with symptomatic obstruction. Retrocaval ureter has been previously diagnosed by Intravenous urography but nowadays 3D images CT scan is the best modality for diagnosis [5].

In 1982, Bergman classified retrocaval ureter into two clinical types [8].

Type I (low loop) is the most common, with the dilated proximal ureter assuming the shape of a reverse "J". Usually, this type of ureter is obstructed.

Type II (high loop) is seen less frequently. The ureter passes behind the IVC at the level of, or just above, the pelvic-ureteral junction. This type of ureter is frequently not obstructed.

Surgical correction with ureteroureterostomy with anterior transposition of ureter is treatment which can be performed either by open , laparoscopic (9) and retroperitoneoscopic (10) approaches. In cases with non functioning kidneys nephrectomy is indicated. With small reference numbers recently laparoscopic surgery has been described as successful approach.(9)

CONCLUSION

Retrocaval ureter is one of those congenital anomalies which presents clinically late, in the third and fourth decades of life and It is rarely noticed in pediatric age groups. Currently available Imaging studies like 3D images CT-IVU are sufficient for making an accurate diagnosis of a retrocaval ureter. Open surgical treatment allows for correction of the anomaly with resolution of symptoms and remains gold standard although Minimally invasive surgery is emerging as major trend in current management.

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