

Case Report

RETROCAVAL URETER

¹Muhammad Akram Malik, ²Muhammad Sohail, ³Sarah Ramzan, ⁴Muhammad Hussain

¹Associate Professor, Department of Urology, UMDC, Faisalabad.

²Registrar, Department of Urology, MTH, Faisalabad.

³House Officer, MTH, Faisalabad.

⁴Consultant Surgeon, THQ Hospital, Jaranwala.

ABSTRACT

Retrocaval ureter or paracaval ureter is a rare congenital abnormality in which ureter passes behind the inferior vena cava from medial to lateral side, causing obstruction which leads to hydronephrosis and lumbar pain. Intravenous urography, retrograde pyelography, CT, and MRI are main diagnostic investigations. Surgical intervention is required in most of cases.

We present a case of 24 year old male which presented with right flank pain. Diagnosis was conformed by IVU and retrograde D-J Stenting. Exploration of ureter, its transaction and end to end anastomosis was done anterior to right ureter.

INTRODUCTION

Retrocaval ureter or paracaval ureter is a rare embryological anomaly involving venous system and consequently altering the course of ureter. Normally ureter crosses over the inferior vena cava (IVC) at this bifurcation. Ureter in retrocaval position passes behind the IVC from medially to lateral. Cardinal veins are considered to be the basic abnormality in which right subcardinal vein forms the main portion of IVC ventral to the ureter instead of right supra cardinal vein. Consequently the ureter winds behind the IVC from medial to lateral instead of lying lateral to it.¹

Intravenous Urography (IVU) and retrograde uretro pyelography are the basic diagnostic investigations. On IVU there may be hydronephrosis of the right kidney, dilatation of the upper 1/3rd of ureter an S-shaped curve of the ureter and on oblique view ureter hugging the lumbar spine.²

Retrograde pydography reveals medial displacement of undilated lower ureter beyond the midline.

Usual presentation of patients are right flank pain, recurrent infections and hematuria.

Corresponding Author:

Dr. M. Akram Malik,

Assistant Professor Urology,

Univ. Medical Dental College, Faisalabad..

E-mail: akrammalik@yahoo.com

CASE REPORT

A 24 year old male presented with right lumbar pain for 02 years. Physical examination was unremarkable. Microscopic haematuria was present on urine examination with normal renal profiles. Ultrasound of kidney ureter and bladder (USG-KUB) showed moderate hydronephrosis and dilatation of proximal ureter. No past history of stone disease present. Intravenous urography showed right sided hydronephrosis with dilatation of upper ureter. Dialated upper ureter curved medially making a S-shaped deformity and tapering terminally near midline. Distal right ureter was not outlined. Left kidney and ureter was looking normal on IVU. (Fig. 1)

Retrograde stenting was done and on follow up X-ray KUB diagnosis of retrocaval ureter was confirmed. On X-ray KUB right ureter with double J-Stent (DJ Stent), was going toward midline and from midline crossing towards right kidney obliquely at the level of the lumbar vertebra. (Fig. 2)

Right ureter was explored through right lumbar incision. Right ureter was dialated and passing behind the IVC and then normal looking ureter coursing downward. Right ureter was transected and separated from IVC. Distal part was anastomosed with proximal ureter anterior to IVC, with vicryl 4/0 over DJ Stent.

Post operative recovery was uneventful. X-ray KUB showed Laterlization of ureter (Normal curve). (Fig. 3)



Figure 1



Figure 3



Figure 2

DISCUSSION

A retrocaval ureter is a rare congenital anomaly which occurs predominately in male with a ratio of 2.8:1.³ Although it is a congenital anomaly, patients rarely report before 2nd or 3rd decade. Common presentation includes right flank pain, recurrent urinary tract infections and varying degree of haematuria.

Retrocaval ureter can be classified into two varieties according to radiological appearances⁴. In type I ureter crosses behind the IVC at the level of 3rd or 4th lumbar vertebra and IVU shows typical fish hook or S-shaped deformity, extreme medial deviation with moderate to severe hydronephrosis, as in our case. In type II which is less common, there is mild hydronephrosis, less medial deviation of ureter and sickle shaped deformity at the level of obstruction. Both CT Scan and magnetic resonance imaging are efficient methods of confirming the diagnosis^{5,6}. Surgical intervention is often required to alleviate the symptoms. Open surgical exploration is commonly used technique

although it is being replaced by minimally invasive laparoscopic technique with advantages of minimal post operative pain and shorter convalescens.^{7,8,9}

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