

Retrocaval Ureter: A Case Report

Adil Ibrahim¹; Albra Hegazi^{2*}

¹Urologist, Associated Professor, University of Khartoum.

²Chief resident of urology at Sudan Medical Specialization Board, Khartoum, Sudan, Khartoum Teaching Hospital, Sudan.

Received Date : Jan 07, 2022
Accepted Date : Feb 04, 2022
Published Date : Feb 18, 2022
Archived : www.jcmimagescasereports.org
Copyright : © Albra Hegazi 2022

***Corresponding Author:** Albra Hegazi, Chief resident of urology at Sudan Medical Specialization Board, Khartoum, Sudan, Khartoum Teaching Hospital, Egypt.
Email: albrahegazi@gmail.com

Abstract

A Retrocaval ureter is a rare congenital anomaly of the inferior vena cava, patients of this condition mainly present with right flank pain. In our case, we report that a 37-year-old man, presented with features suggestive of retrocaval ureter in Khartoum, Sudan. It was treated with open surgical repair. In conclusion, this is a rare and demanding case for urologists that needs further care and management.

Introduction

Retrocaval or circumcaval ureter was first described by Hochstetter in 1893, one of the rare congenital venous anomalies. In this condition, the right ureter goes posterior to the inferior vena cava and partially encompasses it [1]. Patients who suffer from retrocaval ureter usually present at their fourth or fifth decades with flank or dull aching pain [2]. Most patients present with right loin pain and obstructive uropathy symptoms due to dilated proximal ureter and hydronephrosis [2]. Computed tomography is an investigation of choice in the case of the retrocaval ureter [1]. We report a 37-year-old male who presented with Upper ureteric obstruction as a result of the retrocaval ureter.

Case Presentation

A 37-year-old male came to our urology outpatient with right loin pain for one month. The pain is not associated with fever, rigor, or hematuria and no lower urinary tract symptoms. On examination, there is mild tenderness on his right flank. He has no past medical history of genitourinary tuberculosis, and there is no significant abnormality value on his laboratory tests. A CTU showed an 'S'-shaped deformity in the proximal dilated right ureter with hydronephrosis at a level of the 3rd lumbar vertebra with no stone or signs of malignancy (Figure 1-2). Therefore, the retrocaval ureter was confirmed, and surgical repair was performed.

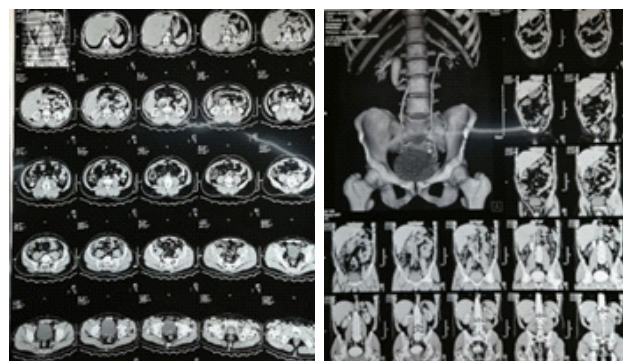


Figure 1

Figure 2

Discussion

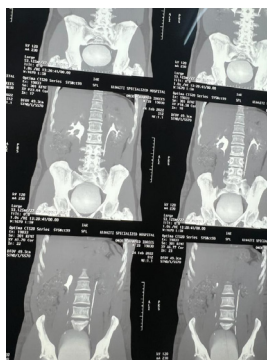
Hochstetter first described retrocaval ureter in 1893 as a congenital anomaly of the ureter. In 1997 further embryological studies showed that it is a congenital anomaly of the IVC which occurs in the 4th – 8th intrauterine weeks, in addition over 200 cases had been reported and its incidence is about 0.06-0.17% worldwide, three times higher in males than females. It occurs when the proximal part of the right ureter passes posterior to the inferior vena cava at the level of the 3rd lumbar vertebra to lie at its medial aspect, subsequently; the distal part returns to its normal position crossing the inferior vena cava from the medial to lateral aspect anterior to the lower part of the inferior vena cava, therefore; obstruction is usually at the retrocaval segment of the ureter as it lies compressed between the inferior vena cava and the body of the 3rd lumbar vertebra.

Citation: Adil Ibrahim, Albra Hegazi. Retrocaval Ureter: A Case Report. J Clin Med Img Case Rep. 2022; 2(1): 1086.

Retrocaval ureter has been classified into two clinical types, in accordance with radiological appearance. It has been classified into two types: The common one is type 1 ('low loop'), usually medial to the pedicle or across the midline at the L3 level, an "S" or "fishhook" deformity is found at the level of obstruction. The second type is type 2, in which there is mild hydronephrosis and minor medial deviation of the ureter. The ureter is noted to be sickle-shaped at the level of obstruction [2]. Generally, patients present with symptoms related to ureteral obstruction and hydronephrosis, such as right flank pain, repetitive urinary tract infections, and renal stones; patients may complain of hematuria [1].

Diagnosis of Retrocaval Ureter is usually made by imaging studies such as intravenous urogram (IVU), retrograde Pyeloureterogram (RGP), or computerized tomography (CT) scan & abdominal ultrasound is helpful. It demonstrates hydronephrosis and proximal hydroureter, which are significant RCU signs. Typical 'fish hook' or 'J'- & 'S'-shaped deformities in the proximal dilated ureter have appeared in intravenous urogram, a Computed Tomography scan is the gold standard investigation in the diagnosis of Retrocaval Ureter [4].

The surgical repair was important, especially to patients whose renal functions started to deteriorate, there are many surgical techniques but in our case and under possible aseptic conditions with general anesthesia, we put the patient in a flank position, and by open surgical technique, Pyeloureteros-tomy was performed.



Conclusion

The Retrocaval Ureter is uncommon and demanding case for urologists that needs further care and management, a Computed Tomography scan is investigation of choice and surgical repair is a definitive treatment.

References

1. Zhang X, Hou S, Zhu J, Wang X, Meng G, Qu X. Diagnosis and Treatment of Retrocaval Ureter. *Eur Urol* [Internet]. 1990; 18(3):207-10. Available from: <https://www.karger.com/Article/FullText/463911>
2. Al-Hajjaj M, Tallaa M. Retrocaval ureter: a case report. *J Surg Case Reports* [Internet]. 2021; 2021(1):1-3. Available from: <https://academic.oup.com/jscr/article/2021/1/rjaa596/6125982>
3. Arruda GJF de, Neto JF de A, Eroles JC, Spessoto LCF, Arruda JGF de, Fácio FN, et al. Incidental finding of retrocaval ureter in a patient without hydronephrosis. *AME Case Reports* [Internet]. 2018; 2:42-42. Available from: [/pmc/articles/PMC6182029/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6182029/)
4. QURESHI MA, MULVANEY WP. Retrocaval Ureter: Report of Two Cases. *Am Surg*. 1965; 31:50-2.