

Case Report

THE RARE CASE OF LEFT RETRO AORTIC RENAL VEIN: SURGICO ANATOMIC RAMIFICATIONS OF THE ABNORMALITY

Ashfaq UI Hassan ^{*1}, Zahida Rasool ², Nissar Chaudhary ³, Muneeb UI Hassan ⁴.

^{*1} MBBS MD, Lecturer, SKIMS Medical College Bemina Srinagar, Kashmir, India.

² MBBS, Medical Consultant, Islamic University of Science and Technology, Awantipora, Kashmir India.

³ Professor, General Surgery, SKIMS, Soura.

⁴ Assistant Surgeon, Directorate of Health Services, Srinagar, Kashmir, India.

ABSTRACT

The Article presents a rare Anomoly of Course of Renal Vein where it lies behind the Aorta . The Consequence of failure to Recognize this clinical entity can be dangerous if left Undetected. This Vein is located between the Aorta and the Vertebrae. The Patient presented with left Flank Pain and on Evaluation was found to have Left RetroAortic Renal Vein.

KEYWORDS: Kidney; Renin; Transplant; Retro Aortic; Abberation.

Address for Correspondence: Dr. Ashfaq UI Hassan, MBBS MD, Lecturer SKIMS Medical College Bemina Srinagar, Kashmir, India. **E-Mail:** ashhassan@rediffmail.com

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INTRODUCTION

The kidneys are situated retroperitoneally on the posterior abdominal wall on each side of the vertebral column. The right kidney is slightly lower than left and the left kidney is a little nearer to the median plane. The kidneys vertically extend from upper border of T12 vertebra to centre of body of L3 Vertebra. The Renal Veins are the main Venous drainage to the Kidney. The Renal veins are known for their Anatomic Variation and hence for a Surgeon Operating in this region. A Proper Knowledge of the Vasculature of Kidneys is of Utmost Importance.

DISCUSSION

The Normal course of the left and right Renal vein should be well known to a surgeon especially in case of vascular injury to the Kidneys . For the blunt abdominal trauma or the Penetrating trauma especially in patient with

hematuria, it is helpful if the preoperative evaluation includes an assessment of renal function [1]. In case a surgical Approach is needed, The left renal vessels can be approached through a direct exposure at the base of the mesocolon. During Renal Surgeries this Anatomic Variation severely effects the technical feasibility of the Surgery [2]. Failure to recognize can lead to a profound Hemorrhage and severe renal failure. The Posterior Nut cracker Phenomenon can occur as a result of decreased space left and cause renal venous hypertension with subsequent renal vein compression and obstruction and more chances of Varicocele formation [3].

The Knowledge of Anomolies of Renal Vein as far as its course is concerned is more important for Retroperitoneal surgeries, Aortic Dissection Surgeries, treatment of Retroperitoneal tumors, Renal Tumor Surgeries [4].

Evaluating the various causes of failure of Renal transplant procedures a cause can be thrombosis of renal vein as a result of which normal Urinary flow may be obstructed by edema, clot, stenosis, or kinking of the ureter which in turn can impair glomerular filtration.

In cases where Early reexploration to control the profound bleeding, relieve renal compression, and restore blood volume usually causes prompt return of renal function. Modern Day Radionuclide renal scans and arteriography are helpful in the differential diagnosis of early posttransplantation of which one cause can be an aberrant course of renal veins [5].

Fig. 1: CT Scan Demonstrating the Rare Left RetroAortic Renal Vein.



Fig. 2: CT Scan Demonstrating the Rare Left RetroAortic Renal Vein.



The kidney may also be affected adversely by renal vein thrombosis, which may also cause renal arterial thrombosis. The Chain of events which follow can be very dangerous leading to Renal Dysfunction or renal failure.

In case of Renal Transplants, usually The left kidney is chosen as it has the longer renal vein

which facilitates the recipient operation. However, if the venogram shows such an aberration extra care is needed.

For the The conventional splenorenal shunt which consists of anastomosis of the proximal part of the splenic vein to the renal vein. With such an aberration in the course of Renal vein A non conventional splenorenal shunt would be required.

Modern day assessment of Hypertension and the use of renal vein renin measurement have considerable importance especially in patients with significant renovascular hypertension [6]. Patients with hypertension and abnormal renal arteries only rarely exhibit a renal vein renin ratio greater than 1.5 to 2.0:1, whereas in patients with functionally significant renal stenosis, renal vein renin concentrations are at least one and one-half to two times higher in renal venous blood of the involved or affected kidney than in the renal effluent of the contralateral venous drainage. The Outcomes of Retro Aortic Renal Vein are thus of great significance.

CONCLUSION

As a Conclusion the Detailed Knowledge of Anomalies of Renal Veins is important to make a distinctive diagnosis of retroperitoneal nodes, pathologies, masses and renal vascular diseases and to impede complications which can occur during retroperitoneal surgical procedures.

Conflicts of Interests: None

REFERENCES

- [1]. Hayashi M, Kume T, Nihira H. Abnormalities of renal venous system and unexplained renal hematuria. *J Urol.* 1980;124:12–16.
- [2]. Thomas TV. Surgical implications of retroaortic left renal vein. *Arch Surg.* 1970;100:738–740.
- [3]. Mathews R, Smith PA, Fishman EK, Marshall FF. Anomalies of the inferior vena cava and renal veins: embryologic and surgical considerations. *Urology.* 1999;53:873–880.
- [4]. Shindo S, Kubota K, Kojima A, Iyori K, Ishimoto T, Kobayashi M, et al. Anomalies of inferior vena cava and left renal vein: risks in aortic surgery. *Ann Vasc Surg.* 2000;14:393–396.
- [5]. Hoeltl W, Hruba W, Aharinejad S. Renal vein anatomy and its implications for retroperitoneal surgery. *J Urol.* 1990;143:1108–1114.
- [6]. Gibo M, Onitsuka H. Retroaortic left renal vein with renal vein hypertension causing hematuria. *Clin Imaging.* 1998;22:422–424.