

A Case Report On Accessory Renal Artery and Accessory Renal Vein in Right Kidney

Dr. Padmaja Vasi M.B.B.S., M.D.

(Assistant Professor in Anatomy, Gandhi Medical College, Secunderabad – 500 025, Andhra Pradesh, India)

Abstract : Structural variations of the renal vessels are not uncommon. During the routine dissection of the abdomen for the under graduate teaching, it was found that the kidney on the Right side had an accessory renal artery and also an accessory renal vein. In our study of about 120 specimens observed in Anatomy Department from 2004 to 2012, this type of combination of variations was found only once, hence presented for its clinical importance.

Keywords - Aberrant Renal Vessels, Accessory Renal Artery, Accessory Renal Vein, Variation in Right Kidney

I. INTRODUCTION

Vascularization of Kidney may be one of the interesting topics for both Anatomists and Surgeons. Variation in the numbers and arrangement of Renal arteries and their branches are not uncommon. These variations are of great importance to Surgeons. Because they can be the source of profuse bleeding if accidentally injured during surgeries. Generally each kidney has one artery and one vein. These variations in ureters and renal arteries are of immense importance because of their implications in various renal transplantations and surgeries. Thus the knowledge of these variations could help the clinicians in recognition and protection.

II. CASE REPORT

Accessory Renal Vein in Right Kidney: During the routine dissection in an adult male cadaver, it was found that Right Kidney had an accessory Renal Vein emerging just below the upper pole and nearer to hilum. It is opening to Inferior Vena cava (IVC) as shown in Fig.1.

Accessory Renal Artery: Apart from the above variation, an Accessory Renal Artery was also found arising from the abdominal aorta at the level of L1 vertebral body as shown in the Fig. 2 and supplying the upper pole of the Right Kidney.

Renal veins, Renal Arteries and the renal pelvis were normal in their origin, position and course. Ureters on both sides were normal in their length and size and they were opening to the lateral angle at the trigone of the bladder.

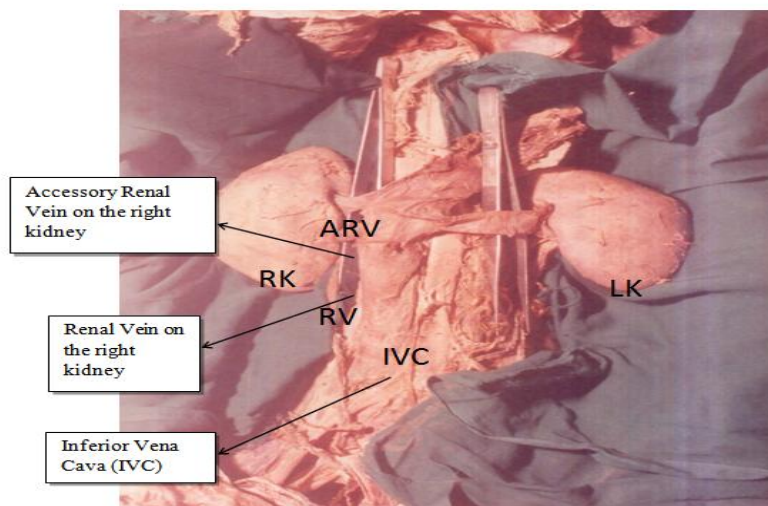


Fig. 1 : Accessory Renal Vein on the right kidney;

RK: Right Kidney, LK: Left Kidney,

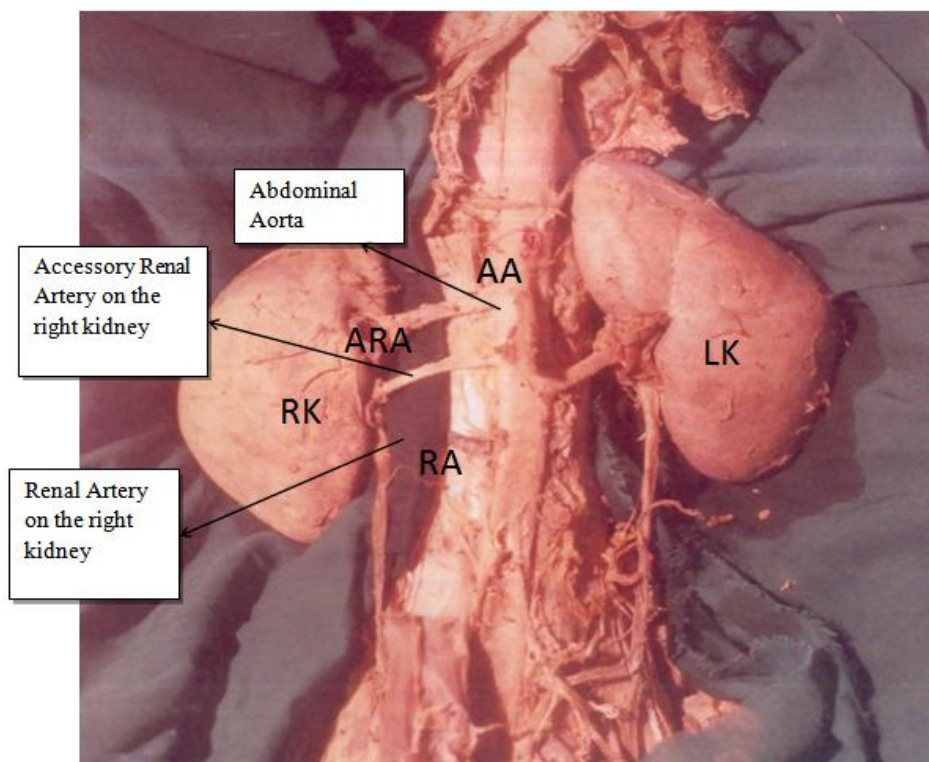


Fig. 2 : Accessory Renal Artery on the right kidney;

RK: Right Kidney, LK: Left Kidney

RA: Renal Artery, ARA: Accessory Renal Artery

III. DISCUSSION

This case study compares favorably with the literature by earlier authors viz., *Bayramoglu. A., et al* [1] who mentioned anomaly of kidneys consisting of bilateral additional renal arteries originating from abdominal aorta and additional right renal vein accompany the additional renal artery. All additional vessels were located posterior to ureter with a close relationship to uretero-pelvic junction on right side. The present author has also observed unilateral additional renal vein and additional renal artery supplying the upper pole of the right kidney.

Brodei P., et al [2] in their study on renal vascularization presented 54 cases of double renal arteries supplying one kidney and originating from aorta. The course of the double renal arteries showed multiple variations and also double renal arteries may coexist with other uro-vascular variations, such as: double renal veins on the same side (4 cases) *coincides with the present case* or on the opposite side (3 cases), double ureter on the same side (2 cases) or on the opposite side (1 case) and persistence of the fetal renal lobulation on the adult kidney (3 cases).

Dhar P, et al [3] observed the incidence of major anomalies of the left renal vein and inferior vena cava in kidney specimens on 59 cadavers. Multiple renal veins were less common on the left (3 %) than on the right side (12 %). The present case also correlates with the author.

IV. CONCLUSION

This case report deals with the variations of renal vessels on one side of the kidney. With the increased rate of nephrectomy for various pathologies of kidney there is increased importance of knowing the variation of the renal artery and renal veins to avoid the ligating the wrong vessels during surgeries.

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REFERENCES

- [1] Bayramoglu. A., Demerymek. D., Erbil. K.M. *Bilateral additional renal arteries and an additional right renal vein associated with unrotated kidneys. Saudi Med J. 2003 May;24(5):535-7 PMID: 12847633*
- [2] Brodei P., Sapte E., Iliescu D. *Double renal arteries originating from the aorta. Surg Radiol Anat. 2004; 26(6):474-9 (ISSN: 0930-1038)*
- [3] Dhar P, Lal K.(2005) *Main and accessory renal arteries--a morphological study; Ital J Anat Embryol. 2005 Apr-Jun;110(2):101-10; PMID: 16277160.*