INTRODUCTION:

The renal artery is the branch of abdominal aorta which supplies the kidney. Generally right and left kidney supplied by one renal artery on each side in 70% of individuals[1]. The normal or main renal artery as a single vessel, at a more or less constant position opposite the renal hilus, from the abdominal aorta and which continues undivided in its straight course to the renal hilus. Accessory renal arteries are common. They originate from the lateral aspect of the abdominal aorta, either above or below the primary renal arteries, enter the hilum with the primary arteries or pass directly into the kidney at some other level, and are commonly called extrahilar arteries.[2]

The testicular arteries are two long slender vessels usually arise anteriorly from the abdominal aorta at the level of the second lumbar vertebra, a little inferior to the origin of renal arteries. Each passes inferolaterally under the parietal peritoneum into the pelvic cavity. The right testicular artery lies anterior to the inferior vena cava. It may originate from the renal artery or as a branch from a suprarenal or lumbar artery. The left testicular artery lies posterior to the inferior mesenteric vein, left colic artery and lower part of the descending colon.[3]

The variation in the renal artery and gonadal artery is very rare

Knowledge of the wide variation in the renal vasculature of the kidney and gonadal artery is of the surgical importance and other interventional procedure. Practical knowledge of Variation in renal vasculature impact on renal transplantation surgery, vascular operations, reno vascular hypertension, renal trauma and uro radiological procedures.

METHODOLOGY:

During a routine dissection at the Department of Anatomy at the CSMSS Ayurved Mahavidyalaya, Aurangabad, an anatomical variation in the renal arteries, and gonadal artery was observed. The cadaver donated to the Department of Anatomy, was that of a middle aged Indian man.

After dissection of anterior wall of abdomen, and after cutting the root of mesentery removed the abdominal organ within the peritoneal cavity, and stripped posterior wall of peritoneum,

Removed the all fat and fascia from the anterior surface of both the kidney and traced the two renal arteries to each kidney, renal veins and gonadal arteries.

OBSERVATION:

RENAL ARTERY

ORIGIN:

It arises from the abdominal aorta at the L1-2 vertebral body level, inferior to the origin of the superior mesenteric artery.

ABSTRACT:

In this article we are representing the variation in origin of renal arteries and testicular arteries. During dissection of healthy cadaver in dissection hall we found

1. Supply of two renal arteries to each kidney instead of one renal artery, arises directly from the abdominal aorta.
2. Variation in origin of testicular artery, the testicular arteries on both sides arising from the renal artery.

Thus knowledge of this type of variation is very important in avoiding complications during operative surgeries.

Key Words: Accessory renal artery, abdominal aorta, kidneys.
COURSE:
The right renal artery courses inferiorly and passes posterior to the IVC and the right renal vein to reach the renal hilum. The left renal artery passes more horizontally, posterior to the left renal vein to enter the renal hilum.

OBSERVED VARIATION
Cadaver showed the accessory renal arteries on both side of kidney.

On the both right and left side Accessory renal arteries arise from the abdominal aorta and enter at the lower pole of the kidney.

GONADAL ARTERY
They are two slender vessels of considerable length, and arise from the front of the aorta a little below the renal arteries.

OBSERVED VARIATION
Testicular artery originated from the same accessory renal artery instead of abdominal aorta on both right and left side.

DISCUSSION:
A single renal artery to each kidney is present in approximately 70% of individuals[1]. The arteries vary in their level of origin and in their calibre, obliquity and precise relations. In its extrarenal course each renal artery gives off one or more inferior suprarenal arteries, a branch to the ureter and branches which supply perinephric tissue, the renal capsule, and the pelvis. Near the renal hilum, each artery divides into an anterior and a posterior division, and these divide into segmental arteriessupplying the renal vascular segments.

Accessory renal arteries are common renovascular anomaly (30% of individuals), and usually arise from the aorta above or below (most commonly below) the main renal artery and Instead of entering the kidney at the hilus, they usually pierce the upper or lower part of the organ[4]. They are regarded as persistentembryonic lateral splanchnic branch of the aorta at the level of second lumbar segment[5].

The rate of anatomical variation of testicular arteries has been reported to be 4.7% and their origin was either from unusually high level of aorta or from the renal artery[6]. In our case, testicular artery arise from accessory renal artery passing anterior to the inferior vena cava.
CONCLUSION:
Different origins of renal arteries and frequent variations are explained by the development of mesonephric arteries. Deficiency in the development of mesonephric arteries results in more than one renal artery.

The developmental origins of testicular blood vessels are very complex. The variations in origin of gonadal artery are also the part of a common embryologic error. Most anomalous renal vessels are without clinical significance, but may be of importance when renal or retroperitoneal surgery is undertaken. Optimal techniques for preoperative identification of these aberrant vessels are being explored. Evaluation before surgery with CT angiography or MR angiography can be useful.

REFERENCES:


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