

Anatomical Study of Anomalous Testicular Artery

Thaer M. Farhan *FIBMS*.

Abstract

Background: The testicular artery arises from aorta below the level of renal arteries, most commonly at the level of L2 vertebra.

Variations in the site of origin of the testicular artery may be accounted; it may arise from anomalous origin rather than aorta, or may originate from aorta higher than L2 level or arises from the main renal artery or accessory one.

Objectives: study the sites of origin of testicular artery and its clinical importance.

Materials & Methods: study the origins of 40 testicular arteries, in both sides of 20 male cadavers in the anatomical laboratory prepared and embalmed for teaching purposes in the medical college. Examine both sides to see the possible origins of the testicular arteries either from aorta or from somewhere else.

Results: During dissection of 20 male cadavers, examining 40 testicular arteries on both sides, a different site of origin of the testicular artery was encountered. The right testicular artery was found originated from the right main renal artery. On the other hand, the left testicular artery was found originated from the left accessory renal artery in two cases out of twenty. In the other 17 cases, all the

testicular arteries whether right or left were originated from abdominal aorta.

Discussion: Variation in the renal and gonadal vasculature has been known since early days of human autopsy. The anomalous origin of testicular artery from accessory renal vessel has important clinical implications, since any surgical intervention with the kidney, during transplantation for example, may lead erroneously to injury of the anomalous testicular artery leading to atrophy of the male gonad.

Conclusion:

- Testicular artery may originate from anomalous origin rather than aorta.
- The anomalous testicular artery is the aberrant one, and no more accessory artery present.
- The encountered anomalous origin may comprise a potential risk of bleeding from injured artery during surgery.

Keywords: accessory renal arteries, testicular artery, vascular variation.

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Introduction

The renal arteries usually arise from anterolateral or lateral aspect, at right angle from abdominal aorta⁽¹⁾, at the level of L2 vertebra, precisely at the level of L1-L2 intervertebral disc, inferior to the origin of superior mesenteric artery⁽²⁾. The left renal artery is shorter than the right, crosses the left crus of diaphragm and psoas muscle, behind the renal vein, both left renal artery and vein being covered by tail of pancreas and the splenic vessels.

The longer right renal artery crosses the right crus and psoas muscle behind the inferior vena cava and the right short renal vein. Each artery reaches the hilum of kidney to supply the renal segments. Each renal artery gives off small suprarenal and ureteric branches.

One or two accessory renal arteries arise frequently from the aorta, above or below the main artery^(3,4).

The testicular artery usually arises from near the front of aorta, below the origin of renal artery and well above the origin of inferior mesenteric artery, the testicular artery arises most commonly from abdominal aorta at the level of the second lumbar vertebra^(5,6), then it travels through the retroperitoneal space and the entire length of the cord to the testicle⁽⁷⁾.

Dept. Human Anatomy, College of Medicine, Al-Nahrain University.

Address Correspondence to: Dr. Thaer Mahmood Farhan, Kadhimiya, Baghdad – Iraq, P.O.Box:14222,

Mobile: 009647901611092

E-mail: aljomaili2005@yahoo.com

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