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Rare variety of additional right testicular vein rushing into right suprarenal vein and into right inferior suprarenal vein – a case report

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During routine dissection, we came across a very interesting variation in the confluence of the right testicular vein. We saw additional right testicular vein which finally divided into two branches. The first branch flowed into the right lower phrenic vein and the second branch flowed into the right suprarenal vein. In addition we saw that right testicular artery passes behind the inferior vena cava. We made series of pictures and did literature. We did not find literature data describing a similar variation. Finally, we made a conclusion that a functional varicocele in the right side is possible very rarely.

Key words: testicular vessels, testicular veins, human, anatomical variation.

Introduction

The testis is an important organ upon which the survival of the human species depends. The testicular arteries and veins play major roles in the thermo-regulation that is essential for the efficient functioning of this organ. However, very little is found in the literature about the veins and their anatomical variations.

Material and Methods

During the dissections, we came across a very interesting variation in the confluence of the right testicular vein. We made a series of images that are presented below.

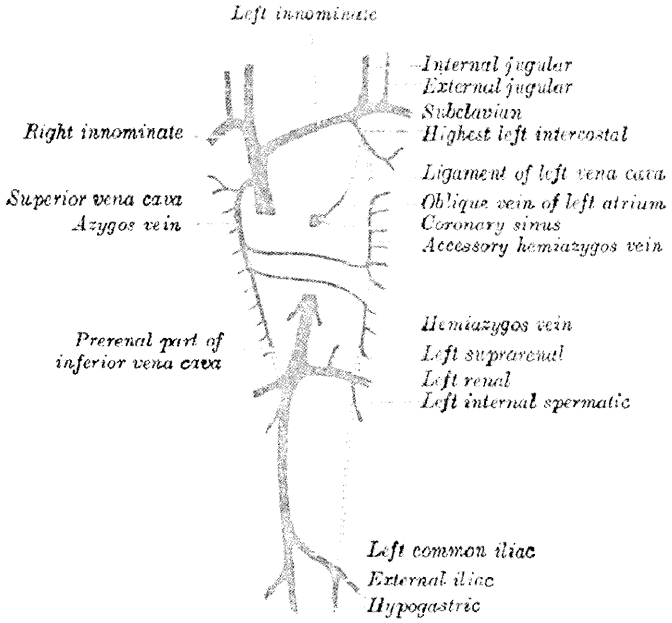

Fig. 1. A scheme showing system of superior vena cava and inferior vena cava in the human body.

Fig. 2. Presence of additional right testicular vein making the proximal direction. Clearly visible main right testicular vein rushing into inferior vena cava and right testicular artery.

Fig. 3. Presence of additional right testicular vein making the proximal direction. Main right testicular vein rushing into inferior vena cava. Right testicular artery passes behind the inferior vena cava.

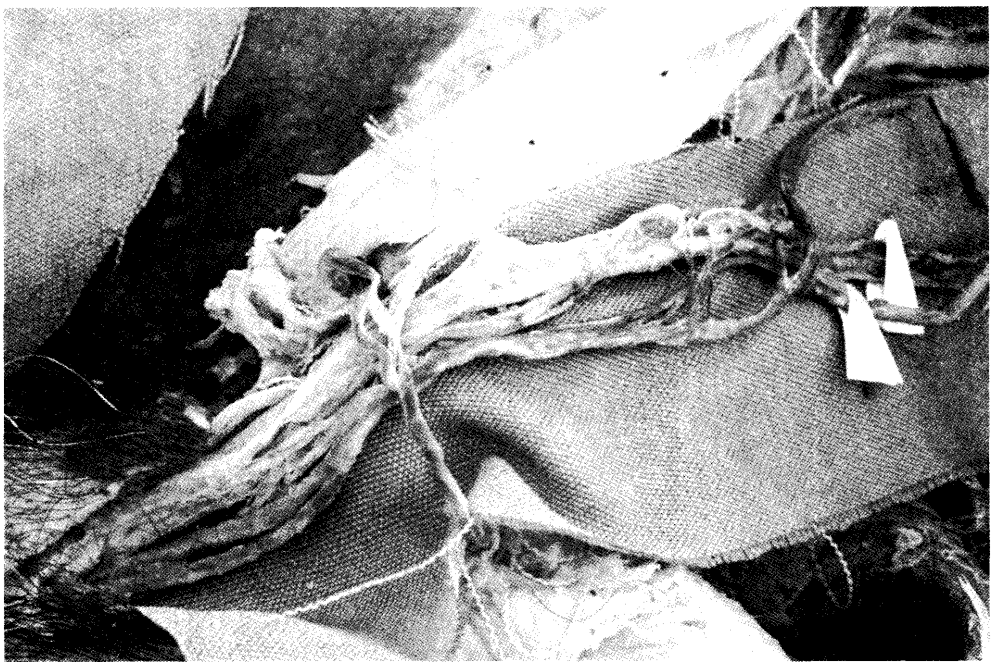

Fig. 4. Both right testicular veins are separate, but clinging to each other by connective tissue. We see the place where the general connective tissue „vagina" disappears and they go up alone.

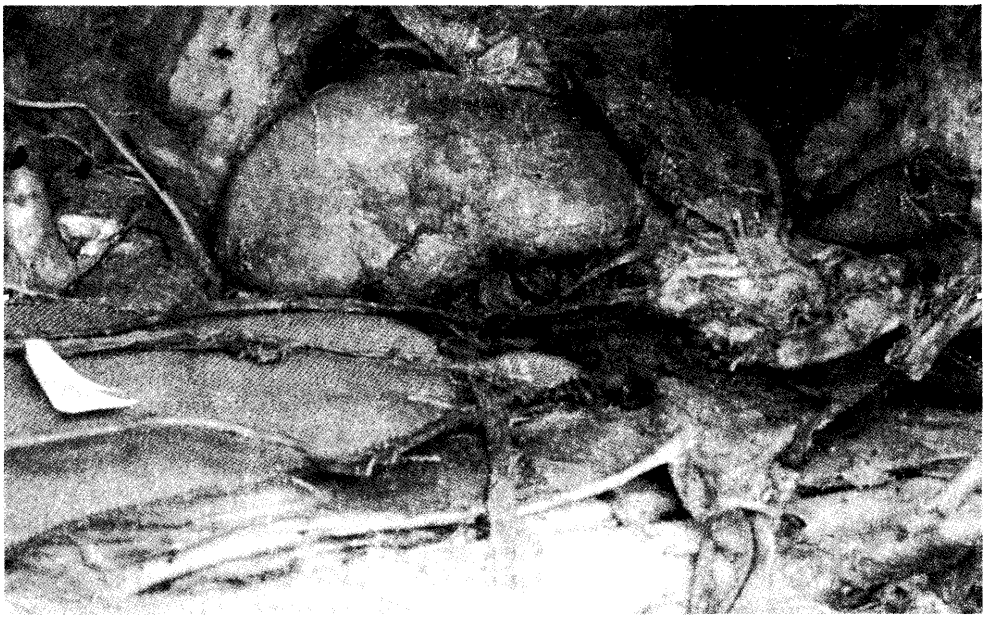

Fig. 5. Clearly visible side by side from top to bottom (right-left) additional right testicular vein, right testicular artery and main right testicular vein.

Fig. 6. Additional right testicular vein ends as two major pillars through: right lower phrenic (diaphragmatic) vein (which in turn splits) and the right suprarenal vein (which is behind the gland). You see the additional branches to the right kidney and right renal vein.

Discussion

Unlike the far more common variations of renal veins, which is written quite in the literature [4, 5, 6] the literature data about variations of testicular veins are much less. It is worth mentioning that the variations of testicular arteries are more common on the right side [8]. On the other hand according to literature data the variations of testicular veins are more common on the left side, 21.3% of people i.e. every fifth man has a variation in the testicular vein. In most of these cases, approximately in 16% variations are the left side [1]. In some of these cases the additional left testicular vein flows into lower tributary of left renal vein [2]. These variations are usually expressed in particular the presence of additional veins. Especially the veins were either completely or partially duplicated, with or without beading. The duplicated veins terminated in the corresponding renal veins either separately or after combining into one vein. In 4% of cases variations are bilaterally. Only about 1.3% of variations are in the right side [1]. As described previously in the literature, however, additional varieties the right testicular vein terminated in the right renal vein [3, 4, 7]. Sometimes the right testicular vein flows into the additional right renal vein [2].

Varieties in which the testicular vein flows into suprarenal vein or even in lower phrenic vein has not been described. The question arises whether the presence of this additional right testicular vein can contribute to the emergence of a functional varicocele on the right. Varicocele on the right side is generally symptomatic i.e. occurs in tumor processes in the pelvis or testicles e.g. – seminoma.

In general urology the presence of a varicocele on the right is a poor prognostic sign but as seen rarely is possible presence of a functional varicocele in the right side.

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