

LETTER TO EDITOR

An Uncommon Variation of Cephalic Vein with Direct Drainage to Superior Vena Cava in a Male Cadaver*Jafar Rezaian**Department of Anatomy, Lorestan University of Medical Sciences, Khorramabad, Iran*

Sir,

Being familiar with anatomical variations is necessary for surgeons and radio-interventionists. Arterial variations are important for interventional cardiologist and a potential danger is vasoconstriction and acute ischemia [1]. Venous variations are important in Intravenous (IV) lines and catheterizations. Embryological basis of vascular variations is unknown. Evidence does not support its genetic basis and it seems to be due to intrauterine events during distal end deviation of vessels [1-2]. Cephalic vein is a superficial vein of upper limb drained to the proximal end of axillary vein. Cephalic vein lies in deltopectoral groove and goes through infraclavicular fossa. Axillary and cephalic veins are integrated and create subclavian vein. Subclavian vein in turn drains to brachiocephalic trunk and then Superior Vena Cava (SVC) [3]. Different clinical applications are considered for cephalic vein. For instance, cephalic vein catheterization can be pointed out. It can be used for IV injections as well as volume resuscitation as an alternative for central venous catheterization in emergent conditions [4].

The present case is a rare variation of cephalic vein drained directly to the brachiocephalic vein. A 57-year-old Iranian male cadaver was dissected in anatomy laboratory of Lorestan University of Medical Sciences. During dissection process we recognized this right-sided unilateral variation. In this variation, cephalic vein is not joined to axillary vein. It passes infraclavicular fossa

parallel to axillary and subclavian veins (Fig. 1) and then directly drains to the brachiocephalic vein with fistula to the subclavian vein (Fig. 2). Some other variations of cephalic vein were previously reported. However, no this reported variation was not found in the literature. Kim and Han (2010) reported a variation in Korea. This variation was at left shoulder of a 57-year old Korean cadaver. In that case, the perforating point of cephalic vein was between clavicular and sternal bones at pectoralis major muscle instead of infraclavicular fossa. The cephalic vein was integrated to external jugular vein and then joined to jugulo subclavian junction [3].

Dogood and Aidemise (2017) reported a case series of 20 cadavers (40 cases of limb) in Niger. Source of cephalic vein in 37 cases had lateral and superficial source in deltoprctoral groove, and the other 3 cases had deep sources. Among those 37 cases, two cases ascended anteriorly and above clavicle [5]. As we mentioned, venous variations had clinical and surgical importance. Cheon *et al.* (2006) reported a complication of hemodialysis in a 27-year old female with end-stage renal disease due to variation of cephalic vein. The complication was scalp edema and insufficient arteriovenous fistula [6].

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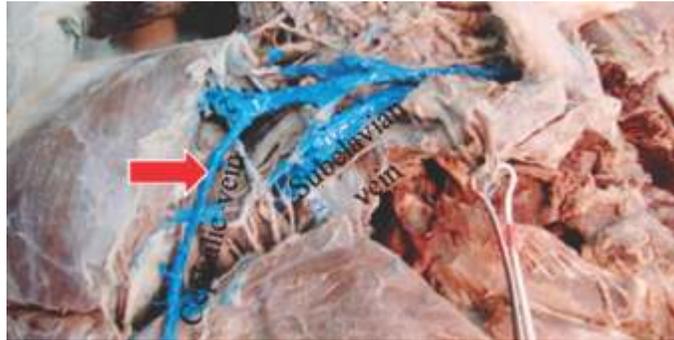


Fig. 1: Cephalic Vein (arrowed)

In this case, it passes infraclavicular fossa parallel to subclavian vein



Fig. 2: Insertion of Cephalic Vein to Brachiocephalic vein

References

1. Tamjidipoor A, Ahmadi SAY. Reporting of an anatomical variation for anterior jugular vein. *Int J Anat Res* 2015; 3(4):1548-1550.
2. Rodriguez-Niedenfuhr M, Vazquez T, Parkin I, Sanudo J. Arterial patterns of the human upper limb: update of anatomical variations and embryological development. *Eur J Anat* 2003; 7(S1):21-28.
3. Kim D-I, Han S-H. Venous variations in neck region: cephalic vein. *Int J Anat Var* 2010;3(1): 208-210.
4. Zane RD, Kosowsky JM, Agrawal P, LeMaster CH, Narayan K, Studley HR. *Pocket Emergency Medicine*: Wolters Kluwer Health; 2011.
5. Dogood AA, Aidemise OC. Variation in the course and termination of the cephalic vein in the deltopectoral triangle. *Acta facultatis medicae Naissensis* 2017; 34(2):99-106.
6. Cheon SH, Seo YS, Kang EW, Shin SK, Kang SW, Choi KH *et al*. Scalp edema and insufficient maturation of arteriovenous fistula due to cephalic vein variation in patient with end stage renal disease. *Korean J Nephrol* 2006;25(3):503-506.

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