

CASE STUDY: VARIATION OF SUPERFICIAL VEINS PATTERN OF UPPER LIMB FOUND IN DISSECTION

Teena Jain¹, Sunil Kumar Yadav²

¹Ph.D. Scholar, Dept.of *Sharir Rachana*, ²Assistant Professor, Dept.of *Sharir Rachana* NIA, Jaipur, Rajasthan, India

ABSTRACT

Most of the blood from the palm of the hand passes through to a superficial venous network on the dorsum. From the radial side of this arch the cephalic vein begins in the roof of anatomical snuffbox and runs up along the lateral border of the limb. It runs in the upper arm lateral to biceps, to the deltopectoral groove, and perforates the clavipectoral fascia to drain into the axillary vein. From the ulnar side of the dorsal venous arch the basilic vein runs up the medial border of the limb. It pierces the deep fascia halfway between elbow and axilla and becomes the axillary vein at the lower border of teres major. Commencing distal to the elbow, the median cubital vein runs proximomedially from the cephalic to the basilic veins. It lies superficial to the bicipital aponeurosis, but has a communication with the deep veins. There is frequent variation found in this case study from the standard venous patterns.

Key words- cephalic vein, basilic vein, median cubital vein,

INTRODUCTION

Cephalic vein also called as the ante-cubital vein is a superficial vein of upper limb hence clearly visible through the skin. This vein starts as an irregular dorsal venous arch situated on the back of the hand. The cephalic vein begins at the radial side or lateral side of the dorsal venous arch and runs up on the outer side of the forearm and arm. In the arm its position is very constant, first along the outer border of the biceps, then in the groove between the deltoid and pectoralis major where it pierces the deep fascia. In the deltopectoral triangle it deeps deeply, pierces the costocoracoid membrane, and ends in axillary vein. The virtual right-angle at which the cephalic vein joins the axillary vein is responsible for the obstruction frequently encountered at this point when at-

tempting to pass a central venous catheter through the cephalic vein. The cephalic vein may communicate with the anterior jugular vein by a vessel which crosses the clavicle. Cephalic vein is anastomoses with the basilic vein by an obliquely crossing median cubital vein at the level of elbow in most cases. The basilic vein commences from the inner side of the dorsal venous arch and runs up along the inner border of the forearm and arm, as far as the middle of the arm at the level of the insertion of the coracobrachialis. Here basilic vein pierce the deep fascia and going from superficial to deep. Having pierced the deep fascia, the basilic becomes a vena comitans of the brachial artery which already have two accompanying veins. These three vessels join to form the axillary vein. Can-

nulation via the basilic vein is more liable to be successful than cannulation via the cephalic vein because the basilic vein becomes the axillary vein without angulations.¹

Case Report

During routine gross anatomy dissection of upper limb in National Institute of Ayurveda, Jaipur we observe a rare case of variation of superficial veins of forearm on the right side. We found that extra or accessory cephalic vein is present, travels alongside the forearm's radial or thumb side. It seems the accessory cephalic vein is direct branch of cephalic vein. Median cubital vein, communication between cephalic and basilic vein, is absent in this case. An extra vein between cephalic and basilic vein is found which we named Median vein of forearm. After short course of median vein of forearm, it drained into cephalic vein. Following the dissection, variation of superficial veins of forearm or cephalic vein was photographed. However, such variation was not found in the opposite upper limb.

Materials and Methodology-

Materials-

For literary study:-

1. Available literature regarding superficial veins of upper limb from Modern texts.
2. Research Journals or papers presented on the related topics.
3. Authentic Internet sources.

For cadaveric dissection Study:-

1. Cadaver: Male
2. Dissection kit

Methodology-

*Literature Study: All the information regarding superficial veins of upper limb was collected from modern texts, research journals or papers presented on the related topics and authentic internet sources.

*Cadaveric Study: - Cadaveric dissection was done in the dissection hall of department of *Sharira Rachana* of NIA, Jaipur. While studying the dissected cadaver, photo images were taken with the help of digital camera.

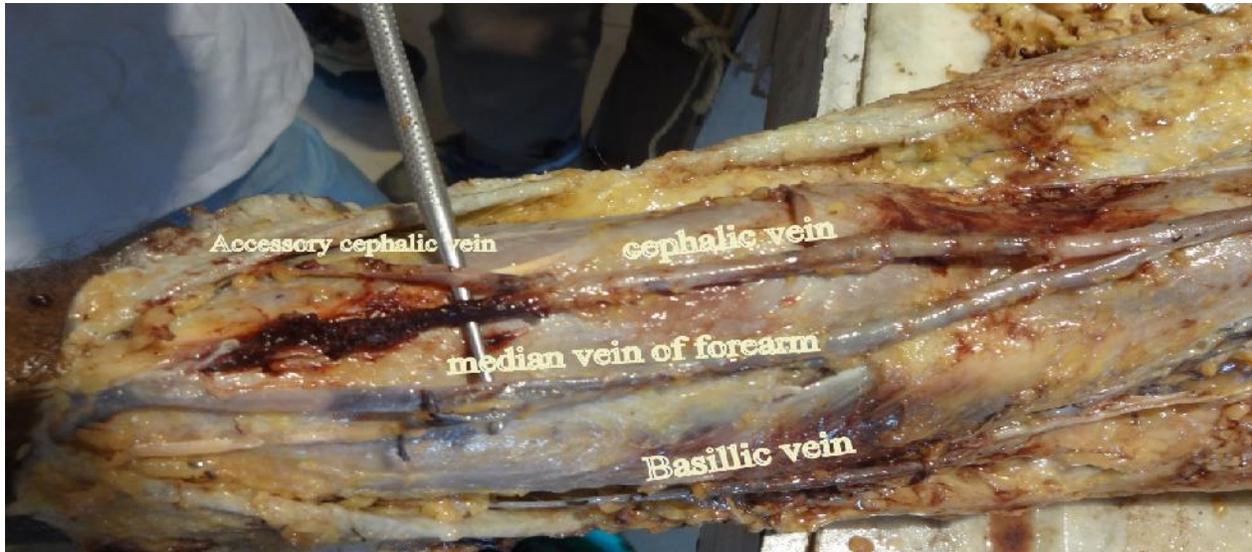
Dissection of the upper limb was done on cadaver by using dissection kit; Cunningham's manual of practical anatomy, Grant's Dissector, Frank H. Netter and B. D. Chaurasia's Human Anatomy for understanding the variation of superficial veins of upper limb.

DISCUSSION

The cephalic vein begins at the radial side or lateral side of the dorsal venous arch, and ascends along the lateral aspect of the arm. Cephalic vein is situated in superficial fascia and superiorly it passes between the deltoid and pectoralis major muscle or deltopectoral groove or deltopectoral triangle where it pierces the deep fascia to enter the axillary vein. Cephalic vein is anastomoses with the basilic vein by an obliquely crossing median cubital vein at the level of elbow in most cases. The basilic vein begins at the ulnar side or medial side of the dorsal venous arch, passes along the medial aspect of the forearm, pierces the deep fascia at the elbow and joins the venae comitantes of the brachial artery to form the axillary vein. Median cubital vein receives a number of tributaries from the front of the forearm. It gives off the deep median vein which pierces the fascial roof of the antecubital fossa to join the venae comitantes of the brachial artery. The cephalic vein is one of the most common used veins for intravenous catheter. The accessory cephalic vein is a variable vein can arise from one of two places in the arm. In most cases, accessory cephalic vein is passes along the radial bor-

der of forearm and meets the cephalic vein at near the elbow. In some cases, accessory cephalic vein seems to be a branch of cephalic vein and meets it at the middle of fo-

rearm. In this study, accessory cephalic vein is represents the second case which seems to be a branch of cephalic vein.



CONCLUSION

Cephalic and basilic vein is the superficial vein of upper limb which begins from dorsal venous arch located at the dorsum of hand. In front of the elbow, the prominent median cubital vein links the cephalic and basilic veins. In this case accessory cephalic vein is the direct branch of cephalic vein and drains into cephalic vein at the level of middle of forearm. Median vein of forearm is located between the cephalic and basilic vein and drains into cephalic vein at the level of elbow.

REFERENCES

1. Lee Mc Gregor's, Synopsis of Surgical Anatomy, edited by G.A.G. Decker, 12th

edition, 1986, K.M. Varghese Company, Hind Rajasthan Building, Dadar, Mumbai page no. 249-250.

CORRESPONDING AUTHOR

Dr. Teena Jain

Dept. of *Sharir Rachana*,

National Institute of Ayurveda,

Jorawer Singh Gate, Jaipur, Rajasthan, India

Email: jainteena1186@gmail.com

Source of support: Nil

Conflict of interest: None Declared