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UNUSUAL ORIGIN OF UNILATERAL ARTERIAL TRUNK FROM RADIAL ARTERY-CASE REPORTK. SatheeshNaik¹, S. Lokanadham²¹Department of Anatomy, Basaveshwara Medical College, Chitradurga, KA, India²Department of Anatomy, ViswaBharathi Medical College, Kurnool, AP, India

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ABSTRACT

During routine dissection we observed an unusual origin of an arterial trunk from radial artery in the right upper limb in a 55 year old male cadaver. The arterial trunk gives rise to common interosseous artery which intend dividing into anterior and posterior interosseous arteries. Bifurcation of brachial artery into radial and ulnar arteries in the cubital fossa found normal but there was no communication between radial and ulnar arteries in the palm. We also observed superficial course of ulnar artery underlying the skin and fascia with absence of branches. The branching patterns of radial and ulnar arteries on the left upper limb are found normal. Anomalies in the origin and course of principal arteries are having practical importance for the radiologists and vascular surgeons.

Keywords: arterial trunk, radial artery, unusual branch

INTRODUCTION

Brachial artery is the major artery to supply the arm and given off radial and ulnar arteries 1cm below the bend of elbow or at the level of upper end of radius [1,2]. Radial artery passes along the lateral side of the forearm up to the wrist. The usual branch of radial artery in the proximal part of the forearm is radial recurrent artery. Distal to the radial tuberosity common interosseous artery a short branch, anterior and posterior ulnar recurrent arteries arise from ulnar artery in the lower part of cubital fossa before passing deep to pronator teres. The anterior ulnar recurrent artery originates immediately below the elbow-joint, runs upwards between the brachialis and pronator teres and in front of the medial epicondyle, anastomoses with the superior and inferior ulnar collateral arteries. The posterior ulnar recurrent artery arises somewhat at a lower level than the receding. It passes backwards and medial wards and ascends behind the medial epicondyle of the humerus and anastomoses with the superior and inferior

ulnar collaterals and the interosseous recurrent arteries [3,4]. The common interosseous artery about 1 cm in length, originates immediately below the radial tuberosity, and passing backwards to the proximal border of the interosseous membrane and divides into two branches, anterior and posterior interosseous arteries.

MATERIAL AND METHODS

During undergraduate dissection in the department of Anatomy, Basaveshwara Medical College, Chitradurga, a 55 year male cadaver was dissected and exposed the arterial pattern of upper extremities bilaterally from the origin of the brachial artery to its termination into radial and ulnar arteries. In the fore arm we observed an anomalous arterial trunk arising from the radial artery unilaterally on the right side but on the left side all branches are normal. Arterial variations on the right side were recorded and photographed.

CASE STUDY

A 55 year male cadaver was dissected to study the arterial pattern of upper extremities bilaterally. We exposed the brachial artery from origin to its termination. The branches from the brachial artery in the arm were normal and bifurcated into radial and ulnar arteries to supply the forearm and hand. After bifurcation the ulnar artery is passing superficially in the entire course of fore arm beneath the skin and fascia to enter the palm. The course of radial artery in forearm, we observed an unusual unilateral arterial trunk originating from radial artery (Figure -1). Unusual arterial trunk gives rise to common interosseous artery intend dividing into anterior and posterior interosseous arteries. But on the left side branching pattern of radial and ulnar arteries are normal.

DISCUSSION

Vascular anomalies in the upper limb are unilateral and occasionally bilateral [5,6]. The origin of anterior and posterior interosseous arteries arising from a common trunk or one or both ulnar recurrent branches have been arises from brachial artery reported in the literature [1,4]. A.K. Bilodi has been reported that origin of common interosseous artery from radial artery in both right and left upper extremities [7]. Arterial variations in the upper limb are numerous and occur at the level of axillary, brachial, radial and ulnar arteries as well as in palmar arches [8,9]. In our study the unilateral course of unusual arterial trunk from radial artery continues as common interosseous artery and intends dividing into anterior and posterior interosseous arteries. The same case in other literatures stated as common interosseous artery originated from radial artery instead of ulnar artery and ulnar artery was quite superficial instead of passing deep course [10]. We also observed the superficial course of ulnar artery [11,12,13]. Mrudula et al stated radial origin of common interosseous artery as our case [14]. Superficial

radial and ulnar arteries where in superficial radial artery gave origin to a common trunk which gave a median artery, muscular branches, artery replacing the anterior recurrent and common interosseous arteries [15]. Brachial artery dividing into radial and ulnar arteries with common interosseous artery arising from radial artery [16]. Our case study reveals common interosseous artery was of radial origin as a common arterial trunk and ulnar artery was superficial in its course. It states that unilateral unusual arterial trunk from radial artery is rare but some of the literatures are in agreement with our study.

CONCLUSION

Anomalies in the origin and course of principal arteries are having practical importance for the radiologists and vascular surgeons. In our study arterial trunk originated unilaterally from radial artery is very rare incidence and it is continues in the forearm as common interosseous artery intend terminating into anterior and posterior interosseous arteries. Accurate knowledge of the normal and variant arterial pattern of the human upper extremities is important for reparative surgery.

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Figure-I: Dissection of the upper limb showing unusual arterial trunk arising from the radial artery (BA: brachial artery; UA: ulnar artery; RA: radial artery; UNAT: unusual arterial trunk; CIA : Common interosseous artery; AIA : anterior interosseous artery; PIA: posterior interosseous artery)

