



VARIANT COURSE AND BRANCHING PATTERN OF THE BRACHIAL ARTERY – A CASE REPORT.

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ABSTRACT

Brachial artery is the main artery of the arm. Normally brachial artery begins at the lower border of teres major muscle as continuation of axillary artery. It runs downwards and laterally in the front of arm and crosses the elbow joint. It ends at the level of the neck of radius in the cubital fossa by dividing in to its two terminal branches, the radial and ulnar arteries. A variant course and branching pattern of the left brachial artery was observed during routine dissection of a 55 year old male cadaver in department of anatomy, Banaras Hindu University, Varanasi, U.P. An unusual branch originated from the medial side of the brachial artery of the left arm at the level of lower third of the arm. In the forearm, it passed below the tendon of palmaris longus and passed below the flexor retinaculum. Later it united with the branches of radial artery to form superficial and deep palmar arches. Variations of the arterial patterns in the upper-limb have been the subject of many anatomical studies due to there high incidence.

KEYWORDS : Brachial artery, radial and ulnar arteries.

Introduction

Normally brachial artery begins as a continuation of axillary artery at the distal border of teres major, runs downward at first medial to the humerus and then inclines to lie in front of the bone until it appears in the cubital fossa, where it ends at the level of the neck of radius by dividing in to radial and ulnar arteries.¹

The brachial artery is wholly superficial, covered anteriorly only by skin and superficial and deep fasciae. The bicipital aponeurosis crosses it anteriorly at the elbow, separating it from the median cubital vein. The median nerve crosses it lateromedially near the distal attachment of coracobrachialis. Posterior are the long head of triceps, separated by the radial nerve and profunda brachii artery, and then successively by the medial head of triceps, the attachment of coracobrachialis and brachialis. Proximally the median nerve and coracobrachialis lie laterally while distally the biceps and the muscles overlap the artery. Proximally the medial cutaneous nerve of the forearm and ulnar nerve lie medially, while distally the median nerve and basilic vein lie medially. With the artery are two venae comitantes, connected by transverse and oblique branches. At the elbow the brachial artery sinks deeply into the triangular intermuscular cubital fossa.²

Normally the branches of brachial artery are:

1. Unnamed muscular branches.
2. The profunda brachii artery arises just below the teres major and accompanies the radial nerve.
3. The superior ulnar collateral branch arises in the upper part of the arm and accompanies the ulnar nerve.
4. A nutrient artery is given off to the humerus.
5. The inferior ulnar collateral branch arises in the lower part.
6. The artery ends by dividing in to two terminal branches, the radial and ulnar arteries.³

Case Report

A variant course and branching pattern of the left brachial artery was observed during routine dissection of a 55 year old male cadaver in the department of anatomy. An unusual branch originated from the medial side of the brachial artery of the left arm at the level of lower third of the arm.

After its origin, it descended on the medial side lateral to the median nerve. It passed superficial to the muscles originating from medial epicondyle of humerus and was covered by the deep fascia. In the forearm, it passed below the tendon of palmaris longus and passed below the flexor retinaculum. Later it united with the branches of radial artery to form superficial and deep palmar arches. All the other branches originated normally from the brachial artery.



Unusual branch shown by arrow (⇨)



Unusual branch (shown by arrow) in the cubital fossa, arising from brachial artery and division of brachial artery in to its two terminal branches.



Course of unusual branch in the palm.

Conclusion

Variations of the arterial patterns in the upper-limb have been the subject of many anatomical studies due to there high incidence. The variation can be explained in the light of embryological development.

In addition knowledge of such variations is important for carrying out surgical procedures in the upper extremity.

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