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High Origin of Ulnar Artery - A Case Report

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ABSTRACT

The Ulnar artery being one of the major arteries related with the upper limb of the body. Most of the times its origin is the brachial artery at the cubital fossa. Its importance is such that it supplies to the most parts of the forearm, hand and also communicates with the radial artery forming superficial palmar arch. Hence in its injury, major part of the upper limb gets affected. In the routine dissection of the male cadaver, in the dissection hall of Shri Dharmasthala Manjunatheshwara College of Ayurveda, Kuthpady, Udupi, by the Department Of Shareera Rachana a variation of high origin of ulnar artery from the brachial artery at arm level was observed and has been highlighted in this article.

KEYWORDS

Ulnar artery, Forearm, Brachial artery, Upperlimb



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INTRODUCTION

The ulnar artery being the large of the terminal branches of the Brachial artery, begins near to the neck of the radius, about 1cm below the bend of the elbow. Its termination is marked as the continuation of superficial palmar arch¹.

RELATIONS¹

In The Forearm: Upper half of the vessel passes obliquely deep to the Pronator Teres, the Flexor Carpi Radialis, the Palmaris Longus and the Flexor Digitorum Superficialis, to the medial part of the Forearm.

At Wrist: The ulnar artery is enclosed by Skin and Fasciae and Palmaris Brevis, and lies superficial to Flexor Retinaculum.

BRANCHES²

The Ulnar artery has its supply to the muscles on the Medial part of the Forearm and hand, the common flexor synovial sheath and the ulnar nerve.

The following are the branches of this artery:

- The Anterior Ulnar Recurrent artery – has its origin immediately below the elbow joint.
- The Posterior Ulnar Recurrent artery – it is larger, usually arises lower than the anterior artery.
- The Common Interosseous artery – about 1cm long, origins immediately below

tuberosity of radius. It again gives out two branches:

- The anterior interosseous artery – descends on the anterior surface of the interosseous membrane.
- The posterior interosseous artery – passes backwards in between the oblique cord and upper border of the interosseous membrane.
- The Muscular Branches – gives to the ulnar region of the forearm.
- The Palmar Carpal Branch – crosses anteriorly to the carpus behind the tendon of Flexor Digitorum Profundus.
- The Dorsal Carpal Branch – origins above the pisiform bone.
- The Deep Palmar Arch – often double, passes between abductor and flexor digiti minimi.
- The Superficial Palmar Arch – formed mainly by the ulnar artery, which enters the hand accompanied by the ulnar nerve in front of flexor retinaculum, and lateral to pisiform bone.

VARIATIONS¹

The ulnar artery has variations with respect to its origin.

- Arises above the Elbow, the brachial artery being more often the source of origin than the axillary artery.
- When the artery originates high up, it has superficial in relation to the flexor



muscles in the forearm, lying commonly beneath the deep fascia. It has subcutaneous course in upper part of the forearm, and subfascial in lower part.

OBSERVATIONS

In this case, the Ulnar artery has its higher origin from brachial artery in arm itself. It was passing anteriorly to the medial epicondyle. Its course was superficial to flexor compartment muscles. Finally it was terminating into Superficial Palmar Arch with no variation at that level(Fig 1).

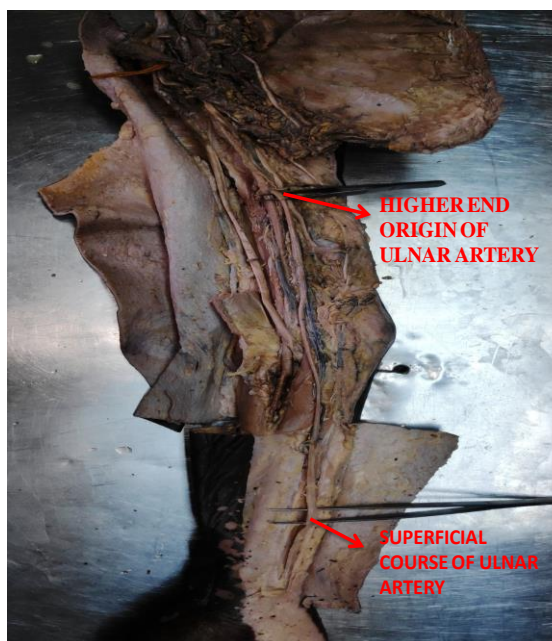


Figure 1 Higher end origin of ulnar artery in the arm. The Brachial artery at the elbow, divided into radial and Common Interosseous artery. Further, Common Interosseous artery was giving out Posterior Ulnar Recurrent artery, anterior interosseous and posterior interosseous artery (Fig 2).

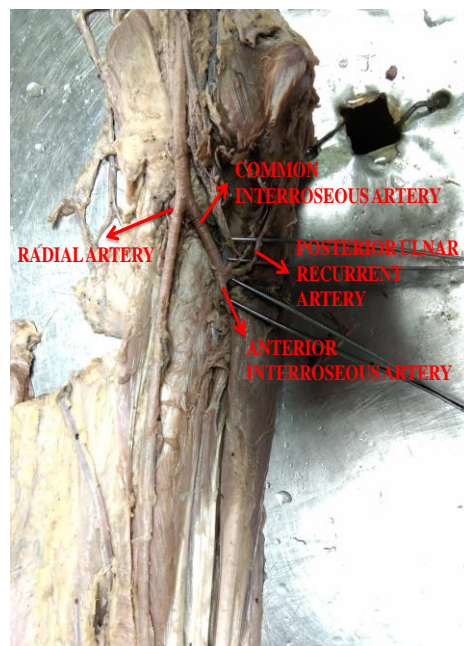


Figure 2 Branches of Brachial artery

Its course in hand was normal dividing into a superficial branch for superficial palmar arch and a deep branch for Deep Palmar Arch.

DISCUSSION

As its course is superficial in the Forearm that is above the flexor group of muscles it is more liable to Injury. On its minute injury also will lead to the profuse bleeding. Especially for surgeons this variation is of high importance before performing any surgeries on this area.



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