Accessory Superficial Ulnar Artery: A Case Report

SHWETA SOLAN

ABSTRACT
Variations in the arterial system of the upper limb have been well documented. A thorough knowledge on variations of arteries of upper extremity is necessary during performance of vascular and reconstructive surgeries and also, during evaluation of angiographic images. A case of accessory superficial ulnar artery was reported. The ulnar artery had a high origin from the brachial artery, in the upper third of the arm and it proceeded superficially and lateral to ulnar nerve in forearm, but it had a normal termination in the hand. The brachial artery had a usual course in the arm, but in the cubital fossa, it divided into the radial and deep ulnar arteries. This deep ulnar artery ended by dividing into ulnar recurrent and common interosseous arteries. Knowledge on this variation is important for the radiologists, orthopaedic and plastic surgeons, for appropriate planning of operative procedures involving the arteries of the upper limb.

INTRODUCTION
High incidence of variations in the arterial patterns in the upper limb have been the subjects of many anatomical studies. Incidence of major arterial pattern variations, as high as 18.53%, have been reported. Ulnar artery is larger terminal branch of brachial artery, which arises 1cm distal to the flexion crease of the elbow and which reaches the medial side of forearm, midway between wrist and elbow. In forearm, ulnar artery lies deep to superficial flexor group of muscles and lateral to ulnar nerve [1]. The high origin of ulnar artery from brachial artery has been reported in 1.33% of cases (McCormack et al.). Ulnar artery may arise proximal to the elbow, in which case it lies usually superficial to the forearm flexors (Gabella 1995). Incidence of high origin of ulnar artery ranged from 0.67% (Weathers by) to 9.38% (Devansh) [2].

CASE REPORT
During the routine dissection of an adult male cadaver, 60 years of age, variation in origin and course of ulnar artery was observed. This variation was noted in both the upper limbs. The accessory superficial ulnar artery originated from brachial artery in the proximal one third of the arm and it ran downwards superficially along medial side of forearm [Table/Fig-1]. This ulnar artery was highly tortuous and enlarged. This accessory superficial ulnar artery was found to lie superficial to flexor muscles of forearm. At the wrist, it crossed the ulnar nerve superficially from medial to lateral side and divided into two branches that take part in formation of superficial and deep palmar arches [Table/Fig-2]. The brachial artery had a usual course till the cubital fossa. In the cubital fossa, the brachial artery divided into two branches; a deep ulnar artery and a radial artery [Table/Fig-2]. The radial artery had the usual course and branching pattern. The deep ulnar artery passed deep to flexor muscles of forearm and it divided into ulnar recurrent and common interosseous arteries, which had their usual courses [Table/Fig-3].

DISCUSSION
Anatomic variations in the major arteries of the upper extremities have been reported in 11-24.4% of the individuals [3]. Knowledge on origin, course and distribution of ulnar artery is important, due to its clinical implications. The overall incidence of superficial ulnar...
existence of superficial ulnar artery and aneurysm of the deep palmar arch in the hand was reported by Pulakunta et al., [6]. Shanker et al reported a case with the presence of bilateral superficial ulnar arteries, with an unusual arch in the forearm [7].

A superficial ulnar artery may complicate intravenous drug administration, venipuncture, and percutaneous brachial catheterization. As this artery is mostly superficial, it is more prone to injuries which lead to bleeding and ischaemia [8]. Its superficial course makes it more accessible for cannulation. This artery can complicate surgical procedures like radial artery grafting, for coronary bypass [9].

Knowledge on this variation and complications that can arise due to its presence are of great importance to radiologists, orthopaedic, cardiothoracic and plastic surgeons, for appropriate planning of surgical procedures.

**REFERENCES**


