UNILATERAL INCOMPLETE SUPERFICIAL PALMAR ARCH - A CASE REPORT

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ABSTRACT

Superficial palmar arch (SPA) is an arterial arcade and a dominant vascular structure of the palm. In hand surgeries like vascular graft applications arterial repairs, free and pedicled flaps, clinicians should be aware of these variations, because in most of the traumatic events and the surgical procedures of the hand the SPA plays an important role. In the present case, the superficial palmar arch is incomplete and there is no communication between the superficial branches of radial and ulnar arteries. The ulnar artery is giving a proper digital and two common palmar digital branches and the superficial branch of radial artery is giving a common palmar digital branch to supply the half of radial side of middle finger and ulnar side of index finger and radialis indicis supplying the radial side of index finger.

Key words: anastomosis, arteria princeps pollicis, flexor retinaculum, radialis indicis, superficial palmar arch

INTRODUCTION

Superficial palmar arch (SPA) is an arterial arcade and a dominant vascular structure of the palm. Superficial palmar arch is localized just deep to palmar aponeurosis and is superficial to digital branches of the median nerve, long flexor tendons of the forearm and lumbricals of the palm. The arch is formed by the superficial terminal branch of the ulnar artery with superficial palmar branch of the radial artery or arteria princeps pollicis (APP) or arteria radialis indicis (ARI) from the radial artery. An incomplete arch exists due to absence of anastomosis between the vessels constituting the arch. Knowledge in variations of vascular pattern in hand surgeries like vascular graft applications, arterial repairs, free and pedicled flaps is important, and clinicians should be aware of these variations. In most of the traumatic events and the surgical procedures of the hand the SPA plays an important role.

MATERIAL AND METHODS

Anatomical variations of the vessels of the palm region are carried out on 20 cadavers (18 male and 02 female during the years 2009-2012.

CASE REPORT

The present variation is observed in an adult male cadaver during routine dissection in the Department of Anatomy, MIMS, and Vizianagaram. In the present case, there is a unilateral variation of superficial palmar arch seen in the left hand. There is no anastomosis between the superficial branches of Radial artery & Ulnar artery in the left hand. The superficial branch of ulnar artery entered the palm superficial to flexor retinaculum and divide into two common and one proper palmar digital branches supplying the ulnar side of middle & radial side of ring finger, ulnar side of ring & radial side of little finger and proper branch supplying ulnar side of little finger. The superficial branch of radial artery entered the hand deep to thenar muscles and dividing into two
common palmar digital branches and one proper palmar digital branch supplying the adjacent sides of thumb & index finger, index and middle finger and proper palmar digital branch supplying radial side of the thumb (fig.1). In the right hand the SPA is having a normal course.

**CONCLUSION**

Patients with coronary artery disease should be screened before RA harvesting to confirm the presence of viable collateral circulation. Currently the methods of assessing hand circulation include the modified Allen test, Doppler ultrasonography, photoplethysmography. Doppler study is a useful tool in preoperative screening for RA harvesting for myocardial revascularization (Pola P\(^5\) 1996)

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**REFERENCES**