

5. BILATERAL PERSISTENT MEDIAN ARTERY: A CASE REPORT

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Introduction. The median artery can persist in adult life and contribute to the formation of the superficial palmar arch. The persistent median artery (PMA) may compress the median nerve (MN) and has practical significance for surgeons. The presence or absence of anastomosis between the arteries that contribute to the formation of the palmar arch has been used to categorize the SPA as complete or incomplete.

Case presentation. A routine anatomical dissection was performed on the upper limbs of a male adult cadaver aged 60–70 years who was fixed in a 10% formalin solution. This study presents a rare case of bilateral presentation of the superficial palmar arch formed by PMA. The left persistent median artery was identified as originating from the trifurcation of the ulnar artery into the median artery, the common interosseous artery, and the ulnar artery, 69 mm distal to the epicondyles of the humerus. At the wrist, the persistent median artery with a diameter of 2 mm passed through the carpal tunnel and revealed no anastomosis with the ulnar artery, forming the incomplete superficial palmar arch of the median-ulnar type. The right ulnar artery is subdivided into the common interosseous artery, the median artery, and the ulnar artery at a distance of 80 mm from the intercondylar line. The SPA is formed by the median artery (MA) and the superficial palmar branch of the RA. The palmar digital branches from the ulnar artery supplies the medial two-and-a-half fingers, while those from the median-radial type of SPA supplied the lateral two-and-a-half fingers and gave the *radialis indicis*. The thumb had additional blood supply from the *princeps pollicis* branch of the radial artery.

Discussion. The PMA is a frequent abnormality that can induce carpal tunnel syndrome by pressing directly on the median nerve. According to several studies, the prevalence of persistent median artery varies between 1.1% and 27.1%. The palmar pattern was analyzed and had an incidence of 20%, more common in females than in males 1.3:1, appearing unilaterally more frequently than bilaterally 4:1. According to research, the prevalence of incomplete SPA varies from 3.6 to 54.76%. The angle between the ulnar artery and its common interosseous trunk was the most common source of origin of the median artery (59%). The palmar pattern usually joins the superficial palmar arch at 35% or ends as the 1st, 2nd, or 1st and 2nd common digital arteries at 65%. The median artery diameters varied from 0.8 to 2.6 mm, with a mean value of 1.7 mm. According to our results, the median artery in the palmar region has a diameter of 2 mm. This is the first case report in the human anatomy department that describes an incomplete palmar arch and bilateral persistent median artery in a cadaver.

Conclusion. The SPA has received a lot of attention recently because of its importance in contributing to the vascular supply of the hand. Our discovery was notable in that it revealed the presence of MA as well as an anastomosis between MA, RA, and UA. These variations are essential in supporting medical students in improving their clinical practice knowledge.