

# A Rare Variant Formation Of The Median Nerve: A Case Report

R Chitra

## Citation

R Chitra. *A Rare Variant Formation Of The Median Nerve: A Case Report*. The Internet Journal of Neurology. 2006 Volume 8 Number 2.

## Abstract

Variations in the formation of median nerve are common but this case report is the rare variation of formation of the median nerve posterior to the third part of axillary artery. During educational dissection of undergraduate students of the academic year 2007-2008 in our department of anatomy, the two roots of the median nerve joined behind the axillary artery to form the median nerve, which coursed behind the brachial artery and then crossed to the medial part of cubital fossa. The lateral root passed between the axillary artery and anterior circumflex humeral artery to course to the back to join the medial root of median nerve. This variation may be clinically important because symptoms of median nerve compression arising from similar variations are often confused with more common causes such as radiculopathy and carpal tunnel syndrome.

## INTRODUCTION

The median nerve (C5, 6, 7, 8; T1) is formed in the axilla by one root from each from the medial and lateral cords of brachial plexus. Normally the medial root derived from the medial cord, carries the fibers from C8, T1 and joins with the lateral root after crossing the front of the third part of the axillary artery. The median nerve descends anterior to the axillary and upper part of brachial arteries to reach the medial aspect of the brachial artery in the distal half of the arm. It supplies most of the flexor muscles in the anterior aspects of the forearm and the thenar and two lumbrical muscles in the hand. It also supplies skin in the hand and fingers but only sympathetic postganglionic fibers to the axillary and brachial arteries in the axilla and arm [1]

## CASE REPORT

During the routine dissection of undergraduate students of the academic year in our department of anatomy, the rare variation of the formation of the median nerve posterior to the third part of axillary artery was noted. The lateral root coursed between the axillary artery and anterior circumflex humeral artery to join with the medial root posteriorly. The two roots coursing behind the artery is shown in figure.no1. Then the median nerve coursed posterior to the brachial artery to reach the medial aspect of the brachial artery in the cubital fossa.

## Figure 1

Figure 1: Showing the lateral root of median nerve passing between axillary artery and anterior circumflex humeral artery and joining medial root posteriorly to form median nerve which then descended posterior to brachial artery in the arm.



AA-Axillary artery, ACHA-Anterior circumflex humeral artery, LRM-Lateral root of median nerve, MRM-Medial root of median nerve, MN-Median nerve, BA-Brachial artery

## DISCUSSION

The formation of the median nerve posterior to the third part of axillary artery is rare and it is not reported in bilateral axillary dissections of 172 cadavers by Pandey S.K etal [2].

In 4.7%, both roots of the median nerve were joined on medial side of the axillary artery to form a median nerve, which traveled medial to the artery in their study. In 2.3%, the roots of the median nerve did not join and both traveled separately anteromedial to the axillary and brachial arteries in the study of the above authors.

The medial root of median nerve may be compressed in the present case between the axillary artery and anterior circumflex humeral artery or by the compression of median nerve by the expanding lesions of the axillary artery [3, 4]. So, this case report is an example of high median nerve entrapment. A rare variation of entrapment of the medial root of median nerve between the axillary artery and its anomalous branch was reported by Vijaya P.S et al [5]. The knowledge of the high median nerve entrapment is important for the physicians. The knowledge of these types of variations is more important in radical neck dissection and in other surgical operation of the axilla.

### **CONCLUSION**

There must be full awareness of the origin of variation in

collateral branches from the posterior aspect of the BP and their configuration due to their significance in interpreting diagnostic images, nerve blocks, traumatic damage and surgical approaches. Unexplained clinical symptoms, such as sensory loss, pain, wakefulness and paresis compromising these structures, challenge diagnosis. Descriptions of such nerve variations are thus pertinent for anatomists, anesthesiologists, radiologists and surgeons.

### **References**

1. G J Romanes. Cunningham's Manual of Practical Anatomy. 15th edition, Volume One, Upper and lower limbs, Oxford University press, 2003; p. 70.
2. S.K. Pandey , V.K. Shukla . Anatomical variations of the cords of brachial plexus and the median nerve,2006, Volume 20, Issue 2 , PP 150 - 156
3. Ergungor MF, Kars HZ, Yalin R. Median neuralgia caused by brachial pseudoaneurysm. Neurosurgery 1989; 24: 924-925.
4. Reinstein L, Reid WP, Sadler JH: Peripheral nerve compression by brachial artery-basilic vein vascular access in long-term hemodialysis. Arch Phys Med Rehab 1984; 65: 142-144.
5. P.S. Vijaya, V. R. Vollala, R. Mohandas, S. Shetty: A Rare Entrapment of Medial Root Of Median Nerve Between Axillary Artery And Its Anomalous Branch. The Internet Journal of Neurology. 2006. Volume 5 Number 2.

**Author Information**

**R. Chitra**

Siddhartha Medical College