

## Communication between Median and Musculocutaneous nerve at the level of cubital fossa - a case report

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The anatomical variations of the brachial plexus are important to be reported, in order to avoid their damage during the upper-limb surgical procedures. Despite of the frequent documented abnormalities in the pathway of the musculocutaneous and the median nerves, the anatomical variation described in the present case is unusual to see: it does not perfectly come under any of the classifications proposed in literature.

During the dissection of the right brachial plexus in an old male Caucasian cadaver a communicating branch between the musculocutaneous nerve (C5-7) and the median nerve (C5-T1) was exposed. Proximally It originated by the musculocutaneous nerve, after its perforation of the coracobrachialis muscle; distally it joined the median nerve only at the level of the cubital fossa. The musculocutaneous nerve and the median nerve maintained their normal courses, supplying all the collateral and terminal branches. In the same arm an atrophied short head of biceps brachii muscle was also found, despite this its musculocutaneous nerve's branch was discovered during the dissection.

This anatomical variation assumes a considerable importance for neurophysiological studies and for surgical practice. Appropriate neurophysiological examinations through electroneurography allow us to identify the specific functions of its fibers, to be useful during surgical procedures. In neurosurgery it can be used in those cases of lesions or pathologies of the median nerve which require surgery (for example neurofibromatosis), thanks to its length and its distal position, because it can supply the innervation of those structures which are normally innervated by the median nerve. It can also be involved in the neurotization procedure, when a proximal lesion at the brachial plexus afflicts the musculocutaneous nerve functionality. Finally the possible presence of this communicating branch must be also considered by orthopedics, general surgeons and neurosurgeons to avoid damages during surgeries of elbow's region and proximal forearm, which could cause alteration of the motility and the sensibility of forearm and hand.