Anatomical Variations of Brachial Plexus in Adult Cadavers; A Descriptive Study

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Background: Variations of the brachial plexus are common and a better awareness of the variations is of crucial importance to achieve successful results in its surgical procedures. The aim of the present study was to evaluate the anatomical variations of the brachial plexus in adult cadavers.

Methods: Bilateral upper limbs of 32 fresh cadavers (21 males and 11 females) consecutively referred to Guilan legal medicine organization from November 2011 to September 2014, were dissected and the trunks, cords and terminal nerves were evaluated.

Results: Six plexuses were prefixed in origin. The long thoracic nerve pierced the middle scalene muscle in 6 cases in the supra clavicular zone. The suprascapular nerve in 7 plexuses was formed from posterior division of the superior trunk. Five cadavers showed anastomosis between medial brachial cutaneous nerve and T1 root in the infra clavicular zone. Terminal branches variations were the highest wherein the ulnar nerve received a communicating branch from the lateral cord in 3 cases. The median nerve was formed by 2 lateral roots from lateral cord and 1 medial root from the medial cord in 6 cadavers. Some fibers from C7 root came to the musculocutaneous nerve in 8 cadavers.

Conclusion: The correlation analysis between the variations and the demographic features was impossible due to the small sample size. The findings of the present study suggest a meta-analysis to assess the whole reported variations to obtain a proper approach for neurosurgeons.

Keywords: Anatomical variations; Brachial plexus; Cords; Peripheral nerves; Trunks