3 - Clinical Anatomy

OC-047 - (23960) - ANATOMY OF THE MEDIAN NERVE WITHIN THE CARPAL TUNNEL: A SOUTH AFRICAN STUDY

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The anatomy of the median nerve (MN) within the carpal tunnel is increasingly surgically relevant due to the insidious risks of modern tasks which may lead to MN compression. A meta-analysis of anatomical variations of the MN at the carpal tunnel published 10 years ago, revealed that there were no studies on this topic conducted in Africa. A decade later, this study aims to fill this gap by reporting on the anatomy of the MN specifically within the carpal tunnel.

A total of 98 cadaveric hands from the Body Donor Program, University of Cape Town, were included in this study. The variations of the MN were reported according to the Lanz (1977). Furthermore, the location and angulation of the thenar recurrent branch of the MN was recorded in 80 hands according to the classification system proposed by Hanna (2020).

The thenar branch was found to be extra-ligamentous (39%), transligamentous (45%) and subligamentous (16%). The thenar branch was found most commonly in zone 2 of the MN (68%) and the most frequent angle of emergence was 90°. Accessory distal branches of the MN were found in 19% of cases, while MN high division was present in 6%.

Variant branching of the thenar branch within the carpal tunnel poses significant liability due to the risk of incision during carpal tunnel release surgery. It is of paramount importance for local surgeons to be informed by anatomical data of the local population. The range of variability reflected in this study further underscores this point.

Palavras-chave : Median nerve, Carpal tunnel, Anatomical variations