

its location as revealed in this study should be considered by surgeons to be avoided in procedures carried on to decompress carpal tunnel in the carpal tunnel syndrome, drain palmar abscess and to free Dupuytren's contracture.

Variation in the mode of origin of the recurrent branch of the median nerve:

The mode of origin of the recurrent branch of median nerve closely confirm with another study⁶ that reported the recurrent branch of median nerve as the first branch in the palm in 83.3% of the cases. This usual position of the motor branch makes it vulnerable in blind median nerve decompression. The surgeon is thus advised to release the retinaculum starting at its proximal edge.

Bilateral identical innervation:

The results of the present study concluded that there was no significant laterality in the mode of innervation of each of the thenar muscles studied. To our knowledge, no literature dealt with this issue. According to current results, it may be said that when one hand is affected by disease or injury of its nerves, an EMG study performed on its lateral counterpart may help the physician to have a better idea about the prognosis of the affected hand since both hands are likely identical regarding the mode of innervation of muscles. If thenar muscles were shown to have a double ulnar and median innervation then an injury of the median nerve will prove less crippling to the thumb of the patient bearing in mind the ulnar nerve compensation especially for flexor pollicis brevis and opponens pollicis (Table-1).

The EMG method used in this study versus conventional EMG study

The conventional EMG method records the compound muscle action potential (CMAP) from the thenar muscles as a bulk. It considers thenar muscles as being supplied by the median nerve. Thus, the conventional method does not specify the exact innervation of each muscle as has been demonstrated in this study.

With the EMG conventional method, to say that a specific nerve was severely or mildly injured, this depends on many observations such as including increased insertion activity, spontaneous activity of positive sharp waves, fibrillation and/or fasciculation potentials and a decrease in the sensory action potential and/or CMAP amplitude. In addition to prolonged latencies and a decrease in the conduction velocity or even absent responses. Yet, in clinical practice, many patients though they suffer a complete injury as revealed in conventional EMG method they can still perform almost normal movements of the thumb and even the bulk of the thenar muscles is affected to a small extent after a considerable time following the injury. This could attract the attention of the electromyographer and may mislead him.

From prognostic point of view if the method used in this study is applied conventionally, the severity of the injury can be expressed in terms of muscles involved. Many muscles as revealed in this study received mixed innervation and will retain their function on the long run.

The possible drawback of the EMG method used in this study may be the multiple painful needle insertion sites. Anatomically speaking, there might be a possible radial artery injury. The radial artery passes into the hand between the two heads of 1st dorsal interosseous muscle then enters the two heads of adductor pollicis to form the deep palmar arch. The penetration of the recording needle to adductor pollicis muscle may jeopardize the radial artery or its branches leading to radial artery injury and bleeding. This problem should be kept in mind though it was not confronted in this study.

Studies to date have been criticized in that volume conduction from adjacent muscles and stimulus spread to adjacent nerves can complicate electrophysiologic interpretation^[17]. The use of collision studies may lessen the likelihood of these pitfalls, but it does not eliminate them^[18].