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PAPER

Anomalies of the Lumbrical Muscles of the Hand

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Introduction: The human hand occupies a unique position in evolution. The lumbrical muscles, one of the major constituents of intrinsic musculature in hand, play significantly greater role in the precision movements of the fingers. There are four cylindrical lumbrical muscles which rise from the four tendons of flexor digitorum profundus (FDP) in the hand and pass along the radial side of the corresponding metacarpophalangeal joint to insert into the dorsal digital expansion of the medial four fingers. The first and second lumbricals are unipennate while the third and fourth lumbricals are bipennate. Anomalies of the attachments of the lumbricals are not uncommon and have a significant value in the design of surgical procedures.

Objectives: To study the possible variations of lumbrical muscles and also document a relevant Sri Lankan study.

Methodology: This research was carried out as a descriptive study in 19 preserved human hands in the Departments of Anatomy, University of Kelaniya, Ragama.

Results: In 9 (47.4%) hands the lumbricals were normal. Regarding the proximal attachments, the third lumbrical was unipennate in 3 (15.7%) whereas same architecture for the fourth lumbrical encountered was 2 (10.5%). Moreover, it was found that 1 (5.3%) of the second lumbricals was bipennate.

Regarding the distal attachments, the split insertion of the third lumbrical and fourth lumbrical were observed as 2 (10.5%) and 1 (5.3%), respectively. Interestingly, 1 (5.3%) of the third lumbricals was inserted on the medial side of the middle finger.

Conclusion: In our preliminary study of lumbrical muscles of the hand, it was apparent that majority of the observations are comparable to previous research, while there were a higher percentage of proximal attachment variations than distal attachment variations in the study group.