

Palmaris longus muscle: prevalence of absence and morphological variations, a Sri Lankan cadaveric study

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Palmaris longus (PL) is a muscle which originates from the common flexor origin of the forearm as a relatively small fleshy belly which is replaced distally by a long ribbon like tendon. This tendon merges with the palmar aponeurosis and it can be clinically demonstrated by pinching the pads of thumb and little finger together in a flexed wrist (Schaeffer's test). Morphological variations such as reversal of muscle tendon orientation; duplication and triplication; variations in its origin and insertion; and accessory slips are recorded. Nevertheless, the common aberration reported is the unilateral or bilateral absence of PL, which varies among different ethnicities.

Our objective was to find out the prevalence of absence of PL and morphological variations in Sri Lankans by cadaveric dissections.

Thirty two limbs in 9 male and 7 female cadavers were dissected in the Department of Anatomy, Faculty of Medicine, Peradeniya. All cadavers belonged to the Sri Lankan Sinhalese ethnic group. The skin and fascia of the upper limb were reflected. Forearm muscles arising from the common flexor origin and the PL were identified. Attachments, morphology, and variations were verified by careful inspection.

Absences of PL in both forearms were found in one male cadaver (6.25%). One male cadaver (6.25%) had duplication of the muscle on both limbs. The second belly was originating from the common flexor origin medial to PL and developed a similar ribbon like tendon distally which was attached to the volar ligament in front of the wrist.

PL is considered as a vestigial muscle in humans, but it's found to be important for power grip in arboreal primates. In humans it was demonstrated that PL improves gripping among sports personnel who handle racquets and bats, where absence of it may reduce performance. In surgery PL is often used for tendon transplants. The absence of PL is found to be more prevalent among Caucasians and lower incidence found in Mongolians.

Frequency of absence in this study is higher than other Asians and lower than Caucasians. However, it is important to study larger populations and more cadavers to understand its variations and prevalence.