

A Rare Variation of Extensor Carpi Ulnaris

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Short Communication

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***For Correspondence**Dept. of Anatomy, PDVVPF'S Medical
College, Ahmednagar 414111,
Maharashtra, India.**Keywords:** Extensor carpi ulnaris, Deep
transverse metacarpal ligament,
Hypothenar muscles.**ABSTRACT**

Muscles of forearm and palm are known to show variation in their attachments and these variations are of prime importance to the hand surgeons. While studying Deep Transverse Metacarpal Ligament and hypothenar muscles in sixty cadavers, we observed a rare variation of the insertion of extensor carpi ulnaris. In the right hand of a sixty year male cadaver, the extensor carpi ulnaris muscle after getting attached to the tubercle on the medial side of fifth metacarpal was showing a fascial band extending forward to deep transverse metacarpal ligament. To the best of our knowledge only one case showing such band to deep transverse metacarpal ligament has been reported by Al-Quattan and Robertson.

INTRODUCTION

A wide array of variations in the attachment of muscles has been described in various anatomical studies. Many such variations are asymptomatic but some may produce clinical symptoms as a result of entrapment of neurovascular bundle. The variations can be in the form of absence of muscle, an extra head or variations in the origin or insertion of the muscle.

Several authors [1,2] have reported attachment of muscles to the adjacent fascial structures in addition to bone and its role in coordinated activity of muscles of the same or different compartments. Hebert et al [3] had described transmission of forces from muscles to adjacent non-muscle structures and labeled it as 'Extramuscular myofascial force transmission.'

Several variations like absent or double extensor carpi ulnaris, partial attachment to base of third or fourth metacarpal were described by Bergman et al [4]. Barfred & Adamsen [5] reported three cases in which an anomalous slip between extensor carpi ulnaris and extensor apparatus of fifth digit was found. Stecco et al [6] had described a tendinous extension from extensor carpi ulnaris to the fascia of hypothenar eminence.

Woodl[7] observed that Extensor carpi ulnaris sent forward a slip of its tendon to be attached to the extensor aponeurosis of the little finger in 12% of the subjects. He also noted that its incidence is 2 1/2 times common in males than in females. The slip was named Ulnaris quinti.

CASE REPORT

While studying Deep Transverse Metacarpal Ligament and hypothenar muscles in sixty cadavers, we observed a rare variation of the insertion of extensor carpi ulnaris.

In the right hand of a sixty year male cadaver the extensor carpi ulnaris muscle after getting attached to the tubercle on the medial side of fifth metacarpal was showing a fascial band extending to the deep transverse metacarpal ligament (DTML). (Fig.-1) The band was thin, extending from extensor carpi ulnaris and running deep to the hypothenar muscles. The distal end of the band got divided into two slips and then attached to the DTML.

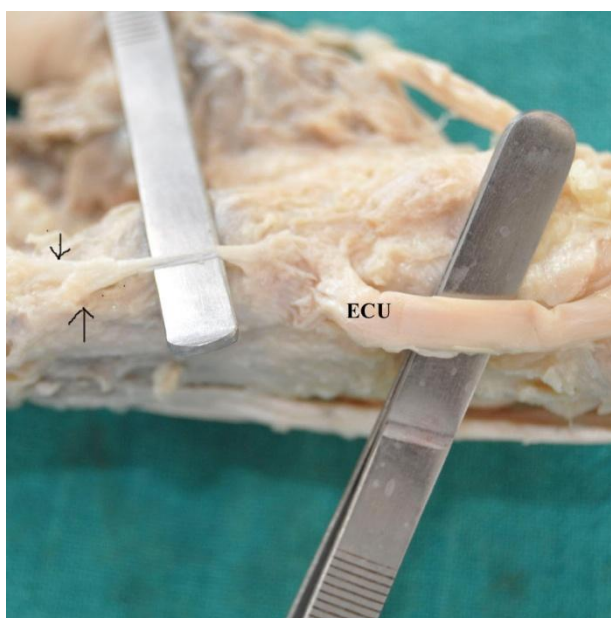
DISCUSSION

The arches of the hand play an important role during activity; it is their adaptability that enables the hand to adjust to a variety of situations. The transverse arches are maintained by the actions of all the small muscles of the hand [8].

The transversally running Deep Transverse Metacarpal Ligament connects the heads of index finger to the little finger and maintains the stability of the transverse metacarpal arch. The role of hypothenar muscles as mobilizes of the metacarpal arch is obvious and is confirmed by the attachments of Abductor digity minimi and Flexor digity minimi and the insertion of Opponance digity minimi into the fifth metacarpal. On the other hand, the role of Extensor carpi Ulnaris is less obvious but it may well act as a stabilizer of the transverse metacarpal arch [9].

Normally the tendon of Extensor carpi ulnaris gets attached to the base of the fifth metacarpal. But present case was a fascial band extending distally from the extensor carpi ulnaris, running deep to the Abductor digity minimi, flexor digity minimi and opponance digity minimi muscles. The distal end of the band was bifurcated and was getting attached to the DTML.

Figure1: Figure showing fascial band extending from the extensor carpi ulnaris



ECU – Extensor Carpi Ulnaris, Arrows indicate distal bifurcated end

Enthesis, the region where a tendon or ligament or joint capsule attaches to bone, are designed to reduce the stress concentration. Thus many tendon and ligament flair out at their attachment site to gain a wide grip on the bone and commonly have fascial expansions linking them with neighboring structures [10]. Hence the functional importance of the fascial band extending to the DTML from extensor carpi ulnaris can be explained.

Extension of the extensor carpi ulnaris tendon to the abductor digity minimi and Opponance of the little finger have previously been described [11] but the extension to the transverse metacarpal ligament has not been reported [9]. Al-Quattan & Robertson [9] observed this in one case. Hence the present case was showing a rare variation of the insertion of extensor carpi ulnaris muscle.

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