

Variant Short Muscles of the Dorsum of the Hand — Extensor Digitorum Brevis Manus Muscle

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The extensor digitorum brevis manus muscle (EDBM) is an additional muscle in the dorsum of the human hand presented in different forms. Here, we report three cases of this variant muscle found during routine anatomical dissections. In the first case, a short extensor to the second and third finger and an aberrant tendon of the extensor indicis were noted. In the other two cases, well-defined short extensors to the index finger were detected. The previously reported variations of the EDBM are reviewed and their possible clinical significance is discussed.

Key words: extensor muscles, hand, variations, clinical significance, human.

Introduction

The “extensor digitorum brevis manus” (EDBM) is a common name of group of variant muscles, originating from the dorsal wrist region and inserting to one or more tendons of the extensor digitorum muscle. Thus, sometimes described “extensor indicis brevis”, “extensor digiti medii brevis” and “extensor brevis digiti indicis vel medii” should be regarded as forms of the EDBM [8]. Despite the presence of numerous reports of this muscle [4, 6, 9], it is still less known by the clinicians and is frequently misdiagnosed as a dorsal wrist ganglion [9].

In this paper, we describe three cases of EDBM, found during anatomical dissections in formal-carbol fixed upper extremities from the autopsy material available at the Department of Anatomy, Histology and Embryology at the Medical University of Sofia.

Results

Different forms of the EDBM were observed in three right hands dissected.

In case A (Fig. 1), the EDBM was located under the tendon of the extensor digitorum to the middle finger and between it and the extensor indicis tendon. The variant muscle has a flat spindle-shaped muscular body originating from the dorsal radiocarpal ligament. A small tendinous slip from the extensor indicis was attached



Fig. 1. Photograph of the extensor digitorum brevis manus (black dot) described in case A



Fig. 2. Photograph of the extensor digitorum brevis manus (black dot) described in case B

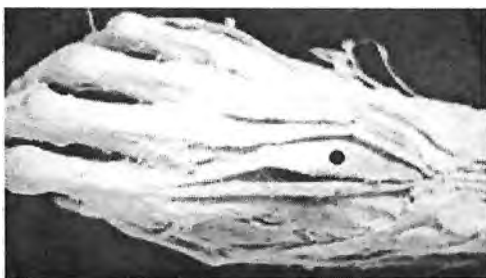


Fig. 3. Photograph of the extensor digitorum brevis manus (black dot) described in case C

to the lateral side of the EDBM. Distally, the variant muscle inserted to the extensor indicis tendon and to the middle finger tendon of the extensor digitorum.

In case B (Fig. 2), the EDBM was found lateral to the extensor digitorum tendon. In this case, the variant muscle replaced the usual extensor indicis. It arose from the wrist joint capsule and was attached to the index finger tendon of the extensor digitorum. A muscle with the same attachment points and location, but having stronger muscular body was found in case C (Fig. 3).

In all three cases, a branch of the posterior interosseus nerve from the radial nerve innervated the variant muscles.

Discussion

In 1734, Albinus first described the EDBM [6]. It is also known as muscle “mannieaux” [3, 4] and was studied during anatomical dissections [1, 4, 6, 8] and in living individuals [8, 9]. In the literature, different variations of the EDBM have been described. M a c a l i s t e r [6] and L e D o u b l e [4] reported different insertions of this muscle - to the middle finger; to the second and third fingers; to the ulnar side of the middle and ring finger; one to the middle and two slips to the fifth finger; to the second, third and fourth fingers. R o d r í g u e z - N i e d e n f ü h r e t a l. [8] reviewed the literature and stated that the most common insertion was into the index finger, followed by this into the middle, and those into the index and middle fingers. Variant origins have also been reported - distal end of the radius, dorsal radiocarpal ligament and wrist joint capsule [7, 8].

The muscular belly of the EDBM lies distal to the distal edge of the extensor retinaculum, so, a physical examination could reveal an elongated swelling in the

proximal part of the dorsum of the hand, usually between the middle and index finger extensor tendons. Due to this location, the variant muscle is frequently misdiagnosed as a dorsal wrist ganglion [5]. A close physical examination and the consideration that the EDBM becomes more prominent with active extension of the wrist and fingers, whereas a ganglion becomes more prominent with wrist flexion, may help in diagnosis [2]. In addition, a differential diagnosis with an exostosis, tendon sheath cyst, tenosynovitis of extensor tendons, hemangioma, rheumatoid tenosynovitis or benign soft tissue tumor could be made [8].

Some authors [7] noted that the EDBM might cause little or no pain. According to other authors [9], however, an existing EDBM may cause pain and swelling of the dorsum of the hand during a heavy manual work. In all these cases, the good knowledge of the muscular variations, presented in our report, may help clinicians in differential diagnosis with many pathological conditions in the dorsum of the hand.

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