Muscle anomalies in the deep compartment of the forearm are rarely seen and generally do not cause any clinical findings. The flexor indicis profundus (FIP) muscle, which has a separate muscle belly from that of the flexor digitorum profundus (FDP) muscle, is one of the muscle variations in the deep compartment of the forearm. Here, we present a case of a patient with this rare anomaly detected during an operation for a hand injury. No pathologic finding was seen after the operation.

**Key words:** Muscle, tendon, anomaly, flexor indicis profundus (FIP), hand, injury

## Introduction

The presence of anomalous muscles in the hand and upper extremities is usually asymptomatic; thus, they are often discovered incidentally during cadaveric dissections [1]. In symptomatic cases, the anomalies can cause compression of the median nerve in the carpal tunnel or a painful palmar mass [2]. Anomalous muscles in the superficial compartment of the forearm are quite common, and flexor digitorum superficialis (FDS) variations are well-known examples [3]. However, flexor digitorum profundus (FDP) muscle variations in the deep compartment are seen less often and are rarely symptomatic.

In this report, we present a case of an accessory FDP tendon for the index finger during exploration of a hand injury.

## Case Report

A 21-year-old male was admitted to the emergency department for a hand injury. A physical examination was remarkable for the absence of FDP and FDS tendon activity in the index finger and sensory loss on the median nerve trace. After the initial emergency room evaluation, the patient was transferred to the operating room. The injury site was on the flexor zone 5 of the left hand. The laceration was lengthened and explored, and the distal and proximal stumps of the tendons and median nerve were located. An accessory tendon (Flexor Indicus Profundus: FIP) was noticed between the FPL tendon and the median nerve (Figure 1). This tendon may function to flex the distal phalanx of the index finger. The injured tendons were repaired with the modified Kessler technique and running epitendineous sutures. The
lacerated median nerve was repaired with an epineural technique under a microscope.

After the operation, the patient was queried about the anatomic variation findings. There was no history of previous sensory loss, stiffness, activity loss, a palmar mass, or anything remarkable.

Discussion

Human anatomy is complex, and there are many variations. Knowledge of anatomical variations is important due to their evolutionary significance. Many variations in the hands and upper extremities have been described. Anomalous muscle variations in the superficial and deep compartments have also been identified. Variations in the FDS tendon are rather common, and they may cause carpal tunnel syndrome, a mass on the palmar surface, or joint stiffness. In contrast, anomalous muscles in the deep compartment are mainly asymptomatic [3]. One of the muscle variations in the deep compartment of the forearm is known as FIP muscle. This anomalous muscle originates from the anterior surface of the ulnar shaft and the adjoining interosseous membrane, along with the FDP [4]. It is located in the plane deep to the FDS between the FDP and flexor pollicis longus (FPL) and has a muscle belly separated from that of the FDP muscle [3,4]. The FIP tendon is located between the FPL and FDP tendons of the index finger [3]. This muscle anomaly is mainly asymptomatic but may present as a tumor-like mass, simulate ganglia, or cause compression neuropathy of the anterior interosseous nerve if enlarged [3,4].

In this case, the FIP tendon was noticed incidentally during surgery. The location of the tendon was similar to that of a cadaveric dissection. After taking a history, no clinical significance was found, such as a forearm mass, ganglion, or neuropathic finding due to this muscle variation. After the operation, no neuropathic finding or difficulty in movement was noticed.

A few similar cases have been reported in the literature [3,4]. However, all of those reports were cadaveric dissection studies. Our study was clinically based, and the anomalous tendon was detected during a hand-injury operation.

In conclusion, although deep compartment muscle variations in the forearm are rarely seen, tend to be asymptomatic and generally do not cause problems, surgeon should keep in mind the possibility of anomalous muscle variations while performing hand surgery and we believe that the repair of the FIP tendon may not cause any pathologic condition.

Conflict of interest statement

The authors have no conflicts of interest to declare.

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