ANOMALOUS MUSCLE BELLY OF THE FLEXOR DIGITORUM SUPERFICIALIS

Report of a Case

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Anomalous muscles are rare and occasional findings. Palmaris longus, a muscle tending to atavism, is more prone to variations than any other muscle. These are well documented by Reimann, Daseler, Anson and Beaton (1944), and cases have been reported by Goulding (1948), King and O'Rahilly (1950), Thomas (1958) and Ashby (1964). Other anomalous muscles reported are soleus accessorius (Dunn 1965) and extensor indicis (Jones 1959). Anomalies of the flexor digitorum superficialis have been reported by Fromont (1895), Gräper (1917), Case (1966) and Mainland (1927).

This paper reports a case of an anomalous muscle belly of the flexor digitorum superficialis (sublimis) which presented as aching swelling in the palm. There is no reference to a similar case in the literature.

CASE REPORT

A typist aged nineteen was admitted in May 1967 with a three-month history of a swelling in her right palm which became more obvious and painful towards evening after a day of typing.

![Fig. 1](image_url)

The anomalous muscle belly exposed in the palm of the right hand.

Examination showed an oval swelling in the palm. It was slightly tender, soft, and mobile in transverse direction only. It became firmer and less mobile on active contraction of the index finger against resistance. It gave fluctuation in transverse direction only. Her general health was good and blood investigations including the latex test were normal. A provisional diagnosis of a ganglion arising from the sheath of the flexor tendons of the index finger was made.

At exploration the swelling was found to be an anomalous muscle belly of the flexor digitorum superficialis (Fig. 1) arising proximally from and inserted distally into the palmar
surface of the tendon (Fig. 2). It extended from just distal to the carpal tunnel down to the level of the metacarpo-phalangeal joint. As she had no symptoms of carpal tunnel syndrome, the carpal tunnel was not opened. Nothing further was done and the wound was closed.

She was seen again in the out-patient department when the findings were explained to her. She accepted the facts and stopped worrying about the occasional ache that she used to get.

![Image](https://via.placeholder.com/150)

**FIG. 2**
Showing the insertion of the tendon into the palmar surface of the superficialis tendon.

**DISCUSSION**

Anomalous muscles usually do not cause symptoms and are of academic interest. They become a surgical problem when they produce symptoms or are difficult to differentiate from soft-tissue tumours. Because of rarity they do not cross our minds when confronted with such a case, and the significance of fundamental tests such as fluctuation in one direction only, increase in firmness on active contraction of the muscle against resistance, and lack of translucency, is not appreciated until after the exploration.

An anomalous muscle may simulate a ganglion (Jones 1959, Thomas 1958) or a soft-tissue tumour (Lipscomb 1959, Goulding 1948, Dunn 1965); or if in close proximity to a nerve it may cause pressure neuritis and produce symptoms such as a carpal tunnel syndrome (Ashby 1964) or ulnar neuritis with motor and sensory disturbances (Schjelderup 1964, Thomas 1958).

Flexor digitorum sublimis is a muscle belonging to the intermediate muscle group of the forearm. It arises from the common flexor origin over the medial epicondyle of the humerus, from the anterior portion of the ulnar collateral ligament of the elbow, from the medial side of the coronoid process of the ulna and from the anterior border of the radius extending from its tuberosity down to the insertion of the pronator teres. At the wrist the tendons arrange themselves in two groups, a superficial one, of the tendons for the middle and ring fingers, and a deep one, of the tendons for the index and little fingers. At the level of the base of the proximal phalanx the tendon divides to allow the tendon of flexor digitorum profundus to pass through; the slips then rejoin and decussate forming a shallow groove and finally redivide to be inserted into the sides of the middle phalanx.

In amphibia the flexor digitorum still belongs to the intermediate group but is of “brevis” type—that is, it arises from the carpus and is fleshy in the palm. During its development to the mammal stage it becomes a long muscle by fusing end to end over the carpus with forearm
muscles and eventually separating from the carpus (Bunnell 1964). In the human foot, flexor digitorum brevis, which has insertion similar to that of flexor digitorum superficialis is also a "brevis" type muscle arising from the tarsus, namely from the medial tubercle of the calcaneus and adjacent surface of long plantar ligament, and is fleshy.

In amphibia and lower mammals there are more muscles that act on digits. This primitive peculiarity is retained in the human foot, which has more muscles to act on the toes than there are in the palm to act on the fingers. During development of the human hand to its present unique functional stage there has been loss of some of the muscles acting on fingers (Wood Jones 1941). Loss of palmar muscle bellies of flexor digitorum superficialis could be one example. It is possible for these atavistic palmar muscle bellies of flexor digitorum superficialis to be encountered and this present case could be one of them.

SUMMARY

1. An anomalous muscle belly of flexor digitorum superficialis (sublimis) presenting as an aching swelling and simulating a ganglion is reported.

2. It is suggested that this could be an atavistic muscle belly of flexor digitorum superficialis.

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REFERENCES


