

BILATERAL ANOMALOUS FLEXOR SUBLIMIS MUSCLE TO THE INDEX FINGER

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CASE REPORT

A 14-year-old girl student presented with a localised "tumour" in the palm of each hand. The lumps had been noticed for the first time about a year earlier, but had not increased in size and caused her no disability. Occasionally she had felt a slight aching pain in the hands at the end of the day. There was no history of any injury and none of her relatives had noticed any similar lesions in their hands.

On examination there was a well demarcated swelling of equal size in the palm of each hand, extending distally from the base of the thenar eminence along the axis of the index finger (Fig. 1). The swelling was soft, blue in colour and could be moved sideways. Active flexion of the index finger caused the swelling to migrate proximally, become tense and less mobile. The lesions did not pulsate nor did they become smaller on elevation of the limbs.

The motor function, cutaneous sensibility and circulation in both hands was completely normal and X-ray examination showed no abnormality of the bony skeleton.

The pre-operative differential diagnosis rested between a vascular malformation, a hamartoma, ganglion, lipoma or giant cell tumour of the tendon sheath.

The strikingly symmetrical presentation of the lesion was difficult to explain. To elucidate the true nature of the lesion it was decided to explore the palm of the right hand.



FIG. 1. Pre-operative view showing the symmetrical swellings in each palm.

OPERATION

Under general anaesthesia and in a bloodless field provided by a pneumatic tourniquet, the palm of the right hand was explored through a large Z-shaped incision.

On incising the palmar fascia, a well-developed oval shaped muscle belly was found, 4×2 cms in size, with a proximal tendinous attachment to the base of the thenar eminence (Fig. 2). Its distal insertion was by tendon at the site normally occupied by the superficial flexor of the index finger. On the surface of the muscle belly there was a nerve branch arising from the common digital nerve to the index and middle fingers. When stimulated, the muscle belly contracted producing the pattern of movement normally shown by the superficial flexor muscle to the index finger.

Beneath this anomalous muscle belly, the deep flexor tendon to the index finger could be easily identified with its associated lumbrical muscle.

As there was no indication for any further surgical exploration, the palmar wound was closed. Wound healing and convalescence was uneventful.

DISCUSSION

One of the earliest papers describing muscular anomalies in the hand was that by Fromont (1895). Although muscular anomalies have been reported on the dorsal aspect of the hand (Pitt, 1976) most of the published case reports describe anomalies on the palmar surface. The abnormal muscle bellies are usually confined to the palm of the hand, distal to the flexor retinaculum, but occasionally the muscles may pass beneath that ligament and lie within the carpal tunnel (Vichare, 1970). In several



FIG. 2. The anomalous muscle belly exposed in the palm of the right hand, with a nerve branching from the common digital nerve to the index and middle finger.

FIG. 3. Beneath the anomalous muscle belly there is a normal flexor profundus tendon and first lumbrical muscle.

reported cases the additional muscle bulk lying beneath the flexor retinaculum or in the palm itself may be sufficient to produce the carpal tunnel syndrome (Smith, 1971; Still and Kleinert, 1973; Hayes, 1974).

Case (1966) described a "pseudo tumour" in the palm that proved to be an anomalous muscle without any identifiable blood supply. It was treated by partial excision. Wesser *et al.* (1969) described the evolutionary significance of the aberrant flexor superficialis muscle in the hand. They cited the peculiar anatomical arrangement of the hand muscles in the *Megalobatrachus*, the giant salamander of Japan in which all the superficial flexor muscles arise from the palmar fascia and are in effect "intrinsic" hand muscles. They claimed that the existence of these anomalies confirmed the hypothesis put forward by Mainland (1927).

Das and Brown (1975) described a case in which the tendon of the flexor digitorum sublimis to the index finger was replaced by a short muscle in the palm, and there was absence of the lumbrical muscle to that digit.

The published case reports all describe the muscular anomalies as affecting the palm of one hand only, with a very high incidence in women. This short paper describes for the first time a congenital muscular anomaly affecting both hands symmetrically.

The true diagnosis of the condition often rests on surgical exploration of the affected hand. The surgical treatment that may be required will obviously depend on the site and size of the anomalous muscle and the symptoms that may be troubling the patient.

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