DISLOCATION OF THE EXTENSOR TENDONS OF THE HAND

Report of a Case

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Wheeldon in 1954 described two patients with recurrent dislocation of the extensor tendons of the hand; the mechanism and treatment were given and the literature was reviewed. The earliest record of the condition was reported by Razemon in 1930 as being that of Legouest (1868).

CASE REPORT

A seventy-two-year-old woman, a retired school teacher, had noticed for three years an increasing tendency for the right little finger to stick out laterally during such movements as putting on gloves. This became slowly worse so that eventually, on bending the finger, she was unable to straighten it without help from the other hand. Once it was extended she was able to maintain this position actively. She had noticed slightly tender thickenings of the palmar skin at the bases of both ring fingers for ten years. She had suffered occasional pains in the left shoulder and left ankle for several years and had been treated for a right Colles's fracture with a good result. Her mother had had a contracture of the fingers (almost certainly Dupuytren's contracture) but there was no other relevant family history.

On examination the patient appeared in good health. In the left hand there was a Dupuytren's contracture at the base of the ring finger. There was slight triggering of the little finger during extension at about 45 degrees. During flexion, the extensor tendon could be seen to slip medially across the ulnar side of the head of the fifth metacarpal bone; during triggering the patient experienced local discomfort. In the right hand there was obvious derangement of the extensor mechanism of the fifth finger. When the finger was in the extended position, forced flexion could be resisted normally, but during flexion at the metacarpo-phalangeal joint the long extensor tendons could be seen and felt to slip quite smoothly on to the ulnar aspect of the head of the fifth metacarpal. Once displaced, not only was the extensor apparatus completely unable to extend the finger at the metacarpo-phalangeal joint, but it acted as a flexor of this joint and an extensor of the interphalangeal joints because it was like a bowstring across the ulnar aspect of the metacarpo-phalangeal joint and it acted like an interosseous muscle (Figs. 1 and 2). This explained why the patient complained initially that the finger adopted a position of abduction during the action of putting on gloves and other similar procedures. When the extensor tendons were restrained manually from dislocating, normal smooth extension was possible.

There were Heberden's nodes over the terminal phalanges of all the fingers and slight swelling of the second to fifth metacarpo-phalangeal joints of both hands, but no other signs of rheumatoid arthritis were found. The erythrocyte sedimentation rate was nine millimetres in the first hour and the sheep cell agglutination test was negative. Radiographs of the hands showed only a mild degree of generalised rarefaction of bone compatible with her age.

Three months after first being seen the patient had developed triggering during extension and flexion at the metacarpo-phalangeal joint of the left fifth finger; active extension at the metacarpo-phalangeal joint was accompanied by sharp triggering, and it was obvious that subluxation of the extensor tendons was also occurring on this side.

At operation under regional intravenous anaesthesia a longitudinal incision was made over the dorsal aspect of the right fifth metacarpo-phalangeal joint; this was extended on to the finger so that the whole extensor apparatus was exposed. The clinical findings were confirmed (Figs. 3 and 4) and it was seen that the dorso-medial aspect of the fifth metacarpal head was rounded,

FIG. 1

FIG. 2

Figure 1—The extensor tendons of the little finger slip to the ulnar side of the fifth metacarpal head during flexion. Figure 2—On attempting to extend the fingers from the flexed position the little finger remains flexed at the metacarpophalangeal joint but extended at the interphalangeal joints. The dislocated position of the extensor tendons is apparent.

FIG. 3

FIG. 4

Figure 3—The extensor tendons are in their proper position during active extension done during operation under local anaesthesia. Figure 4—After flexion an attempt to extend the finger results in the tendons remaining dislocated and the finger assumes the position shown in Figure 2.

thus allowing the tendons to dislocate smoothly. The abductor digiti minimi was inserted into the ulnar part of the extensor hood only; the slip from the extensor digitorum communis tendon to the ring finger was well developed; no evidence of a tear in the radial side of the extensor hood nor the dorsal capsular ligament of the metacarpophalangeal joint could be found; the tissues here were lax and thin, so that ulnar dislocation occurred with ease.

It was decided that fascial slings and flaps described by other writers would not be sufficient because of the rounded metacarpal head, so the tendon of extensor digitorum communis was divided proximally in the wound and a suture inserted in the long distal end where it formed the extensor hood to prevent longitudinal splitting. It was then looped laterally and sutured to the deep palmar transverse ligament between the heads of the fourth and fifth metacarpals, and finally its cut end returned to the extensor digiti minimi more proximally. The short proximal end was stitched to the extensor digiti minimi to prevent loss of power (Fig. 5).

FIG. 5

To show the method of repair.

The finger was splinted in slight flexion for six weeks. A full range of flexion was achieved within two weeks of mobilisation but extension lacked 10 degrees when the patient was last seen fifteen months after operation. Movement of the finger was smooth, there being no sign of triggering. Subluxation of the other affected tendons had not worsened.

DISCUSSION

The factors predisposing to dislocation of the extensor tendons of the fingers are congenital, traumatic and atrophic. In this patient, atrophic changes were probably responsible and, although there was no obvious evidence of rheumatoid arthritis, the tissues looked thin and degenerate. Further, the involvement of both hands at the same time suggested a generalised disease process. The rounding of the dorso-medial aspect of the fifth metacarpal head and the absence or loss of the normal insertion of part of the abductor into the base of the proximal phalanx were most probably secondary features. The presence of Dupuytren's contracture was of no significance.

The term triggering should not be used for this condition. In previous accounts the greater fingers were more usually involved and the transverse palmar ligaments prevented excessive volar displacement of the extensor apparatus. In this patient the extensor tendons had a paradoxical action, because when dislocated they flexed the metacarpo-phalangeal joint and extended the interphalangeal joints.

When caused by injury repair is simple and probably the best way to restore normal function. In the type described here conservative treatment is most unlikely to restore normal function and operation is necessary as soon as symptoms become severe.

I wish to thank Mr F. Brian Thomas for permission to treat and report this patient, and Mr B. Southern for the photographs.

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