Congenital Dislocation of the Extensor Tendons in Both Hands

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Abstract

A very rare case was reported that presented dislocation of the tendons of extensor digitorum communis at multiple fingers in both hands without any history of trauma nor degenerative disorders. Until this one, no such case had ever been reported about congenital, multiple tendon dislocation in both hands. Careful intraoperative observation revealed very little abnormal changes in the expansion hood and sagittal band, so that anti-dislocation fixation was performed utilizing junctura tendinum.

Case Report

A left-handed 27-year-old student consulted the author complaining about recurrent ulnar dislocation of the extensor tendons on the left second and third and the right third metacarpal head. He gave no personal history of trauma nor rheumatoid arthritis, and he had no family history of tendon dislocation. He did not remember when this tendency had begun, but he mentioned that he had already noticed it before he was ten years old. On physical examination, the patient was otherwise normal with no scar nor skeletal abnormality. The full range of motion was achieved in every joints in both hands. The only abnormality was that the extensor digitorum communis tendons on the right third and left second and third metacarpal head had been dislocating to their ulnar side each time the metacarpo-phalangeal joint was flexed and returning to their normal position when extended (Fig. 1, 4). He had a triggering pain when the discolated tendons returned to the normal position. A roentgenographic examination disclosed no abnormalities in the metacarpal bone nor in the metacarpophalangeal joint. He requested surgical treatment for this condition.

First, an operation for the left hand was performed. Exploration through transverse incision just proximal to the second and third metacarpal head revealed diffuse laxity of extensor aponeurosis, but there were no abnormalities in the expansion hood nor in the sagittal band.
It appeared to be difficult to suture the loose extensor aponeurosis tightly enough. Thus, the junctura tendinum was separated from its attachment to the ring finger tendon and brought under the long finger tendon so that it could be sutured down to the transverse metacarpal ligament of second and third metacarpal bone (Fig. 2). Then ulnar side of the sagittal band of the index finger tendon was partly cut from proximal to distal so that a good regulation could be obtained.

Two months later, the patient underwent an operation for the right hand, when exploration revealed the same condition in the left hand. In the right hand, too, the Junctura tendinum between long finger tendon and ring finger tendon was separated at its latter attachment and brought under the tendon to be sutured to the transverse metacarpal ligament between second and third metacarpal bone (Fig. 5).

Every finger of the patient soon regained its full range of movement, and there was no sign of the recurrence of tendon dislocation (Fig. 3, 6).

Discussion

Dislocation of extensor communis tendon at metacarpal head is not a rare condition. McCoy\(^1\) grouped it into three classes; traumatic, congenital, and degenerative. Degenerative dislocations are the most often seen among the three subgroups, especially in patients with rheumatoid arthritis\(^2-4\). In addition, several cases with some traumatic history were reported\(^5-8\). However, true congenital dislocation of the extensor tendon is extremely rare. A few cases\(^9\) of it had been reported to date, but no case was reported involving multiple joints in both hands.

The etiology of congenital dislocation of extensor tendons is unknown. Kligore\(^10\) attributed it to the luxation of the radial sagittal band. Bunnell\(^11\) has said that the junctura tendinum were not to blame. However, in this case, ulnar subluxation of sagittal band was not observed intraoperatively, even in the full flexion. Careful observation through finger flexion revealed that the tendency of tendon dislocation began only after the proximal end of the sagital band had already passed over the metacarpal head. So it is suggested here, as was also suggested by Saldana\(^8\), that some imbalance of the junctura tendinum played an important role for the tendon dislocation. But here it is also suggested that the thinness of the extensor aponeurosis has been attributed to the tendon dislocation to a certain extent.

Various methods of treatment for extensor tendon dislocation had been reported\(^1, 3, 5, 7, 8, 10, 12\). Most of these authors have described their surgical technique for curing the tendon dislocation by handing the sagittal band or expansion hood. However, there are some other methods of correction utilizing other structures such as junctura tendinum or part of the
tendon itself. They have been also introduced\(^1, 3, 5, 10, 12\). Naturally, some combined procedures\(^7\) were described, and a method for making a new guide for excursion\(^9\) was introduced, too. In this case, sagittal band and expansion hood looked almost normal, and very little therapeutic effect can be expected by operations on these structures. So Wheeldon’s method, which is a method that sutured a strip of the ulnar side of the junctura tendinum to the radial aspect of the expansion hood\(^5\), was modified and applied in this patient. The modification was the following. The strip of the junctura tendinum was brought under the tendon, not over it, expecting to minimize the twist of the tendon. And the strip was sutured to the transverse metacarpal ligament, not to the expansion hood, expecting the firm correcting force especially in full flexion. In the index finger tendon, this method cannot be applied because there is no firm ligament on the radial side of the second metacarpal head. In the index finger in this case, the time it took to regain full flexion after the operation was slightly prolonged. This was probably due to the adhesion between the severed sagittal band and the surrounding tissue. Restoration of the normal structure is essential.

**Conclusions**

A rare case of congenital dislocation of the extensor digitorum communis tendons in both hands was reported. A close relationship between this condition and the junctura tendinum was suggested, and a new operative procedure was described.

**References**


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Fig. 1 Congenital ulnar dislocation of extensor communis tendons at the left second and third metacarpal head.

Fig. 2 The junctura tendinum between the long and index finger tendon was freed and pulled under the tendon preventing dislocation even in full flexion.

Fig. 3 No dislocation was seen postoperatively.

Fig. 4 The same dislocation at the right third metacarpal head.

Fig. 5 The same procedure was applied.

Fig. 6 A postoperative view.