

HABITUAL LUXATION OF THE FIRST CARPOMETACARPAL JOINT

BY

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In 1856 *Malgaigne* described 12 cases of luxation of the carpometacarpal joint of the thumb. The connection between this luxation and an oblique fracture of the base of the first metacarpal bone was elucidated first by *Bennet* in 1881. On the basis of experimental and anatomical studies, he considered that such a fracture was the postulate for luxation of the joint. Subsequently, however, *Aulhorn*, *Sonntag* and others have published cases where luxations without fracture have been present. In 1910, *Grashey* presented an especially interesting series of cases which enable one to study the development of luxation. It would appear from this that luxation is caused by a traumatic injury to the saddle joint between the multangulum majus and the metacarpal bone. In the majority of cases this injury consists of an oblique fracture of the base of the first metacarpal, *Bennet's* fracture; in rare cases only the capsule of the joint with its reinforcement band (ligamentum trapezium metacarpium volare et dorsale) is lacerated. It is also possible for luxation to happen in isolated cases of fracture of the multangulum majus.

As a rule, the injury appears to originate from a fall on an outstretched hand or as a result of boxing. The symptoms are swelling and functional restriction in the basal joint of the thumb together with a palpable change in the tabatière.

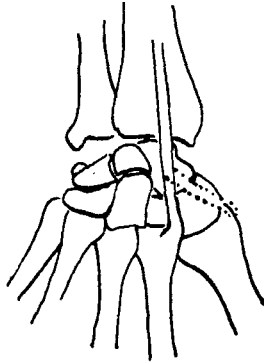
According to the literature on the subject, reposition is usually easy and the prognosis is good whilst the fixation time is given as being variable.

Information concerning congenital, habitual luxation is to be found in literature (*Friedrich, Burk, Witteck*). This condition, however, has not given any real cause for trouble.

I have had an opportunity of treating a case of traumatic habitual luxation in which the patient's capacity for work has been greatly reduced:

A. T. 27 years old.

Previously in good health. A month ago he slipped while working in the forest; broke his fall with his right hand. Severe pain in the right thumb. Consulted a doctor who X-rayed it and found a *Bennet's* fracture. Plaster of Paris dressing for 14 days. When the patient began



to move the thumb after removal of the splint, it luxated immediately in the carpometacarpal joint. He was able to reduce the luxation himself without difficulty. A splint was again applied for a fortnight but the condition was quite unchanged after its removal.

On admission to hospital, it was discovered that luxation occurred during abduction movement of the thumb especially when the wrist was simultaneously deflected. A continuation of conservative treatment seemed useless and an operation was therefore performed.

Operation (the author): *Plastic, using the tendon of musc. extensor carpi radialis longus*. The carpometacarpal joint of the thumb was dissected by means of a 10 cm long incision above the carpal joint parallel with the tendon of the extensor pollicis longus bordering the short musculature of the thumb. It was now possible to study the luxation clearly. The capsule was extremely wide and lax on the palmar side and quite incapable of preventing luxation. The tendon of the musculus

extensor carpi radialis longus was detached. This tendon passes under the Ligamentum carpi dorsale to the base of the second metacarpal. The fascicles of the tendon which extend to the latter place were detached, passed under the short musculature and fixed in position with silk to the base of the first metacarpal. The hand was then fixed strongly flexed. Plaster of Paris fixation for a month during which time the hand was lifted by stages to 10° extension. The case proceeded without comment.

A post examination at the end of eleven months showed that the patient could now work in the forest without trouble.

In the Journal of Bone and Joint Surgery for July 1945—a work which was not accessible to me until after I had operated on my patient—*Eggers* reports the case of a 40-year old man who sustained a luxation in the first carpometacarpal joint, caused by excessive lifting, without fracture. As conservative treatment was unsuccessful, the patient was operated on. A dorsal incision was made above the carpometacarpal joint and the tendon to the extensor carpo radialis longus was dissected from its fastening on the second metacarpal bone whilst its lateral portion was drawn over the carpometacarpal joint of the thumb in order to act as a capsular reinforcement on the dorsal side. Fixation for three weeks. Post examination ten months later showed good results.

In both cases then, the tendon to the extensor carpo radialis longus was used for fixation of the first metacarpal bone to the joint. In my case, the tendon was drawn over to the volar side and fixed to the volar surface of the base of the first metacarpal bone. In the case taken from literature, the tendon was led along the dorsal side as a capsular reinforcement. From a purely mechanical point of view—luxation takes place in a dorsal direction—it is possible that volar fixation is to be preferred even though the *modus operandi* is somewhat more complicated. In both cases the results have been good.

SUMMARY

A case of habitual traumatic luxation of the carpometacarpal joint of the thumb. Operative treatment with the use of the

tendon to the musculus extensor carpi radialis longus which is fastened on the volar side of the base of the first metacarpal joint gave good result.

ZUSAMMENFASSUNG

Ein Fall dauernder traumatischer Verrenkung des carpo-metacarpalen Daumengelenks. Operative Behandlung mit Benutzung der Sehne zum musculus extensor carpi radialis longus, der an der volaren Seite der Basis des ersten metacarpalen Gelenks befestigt wurde, ergab ein gutes Resultat.

RÉSUMÉ

Un cas de luxation traumatique habituelle de l'articulation carpométacarpienne du pouce. Le traitement opératoire utilisant le tendon du muscle extenseur carpi radialis longus qui est fixé sur la face interne de la base de la première articulation métacarpienne a donné de bons résultats.

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