SNAPPING ELBOW DUE TO DISLOCATION OF THE MEDIAL HEAD OF THE TRICEPS

A REPORT OF TWO CASES

U. DREYFUSS, I. KESSLER

From the Department of Hand Surgery, Kaplan Hospital, Rehovot, Israel

Two cases of unusual snapping at the elbow are described. In both, the medial head of the triceps was found to be separated from the main muscle belly. During flexion of the elbow, the medial head dislocated over the medial epicondyle, producing a characteristic snapping phenomenon. Both cases were of long standing and had been asymptomatic for years. The first clinical symptoms were those of an ulnar neuropathy. In order to restore the normal position of the medial head of the triceps, its tendon was detached from the olecranon, passed under the central tendon and interlaced to it. The ulnar nerve was left in the epicondylar groove in one case and transposed anteriorly in the other. At the end of the procedure flexion of the elbow was unobstructed and the snapping phenomenon had disappeared.

The term snapping elbow has been related almost exclusively to a slipping of the ulnar nerve out of its groove on flexion of the elbow to more than 90 degrees. Friction neuritis of the ulnar nerve has been reported in some patients. In 1970 Rolfsen described an exceptional case of snapping elbow produced by intermittent dislocation of the medial head of the triceps over the medial epicondyle. The purpose of our paper is to describe two further cases and to suggest a technique for reconstruction.

Case 1. A mechanic aged twenty-five years was referred to us because of difficulty in actively extending his left elbow after flexion to more than 90 degrees. This condition, which had existed for almost three years, had been further complicated during the previous few months by a sensation of numbness in the ring and little fingers. Examination revealed a thick structure, which slipped over the medial epicondyle whenever the elbow was actively or passively flexed to more than 90 degrees. Each such jerk caused a feeling of paraesthesia in the ring and little fingers. In spite of the obvious involvement of the ulnar nerve, the slipping structure could not be identified as the nerve alone. We suspected that part of the triceps participated in the snapping mechanism.

Operative treatment. Through a dorso-ulnar incision the posterior aspect of the distal half of the arm was exposed. The medial head of the triceps was found to be split from the rest of the muscle and the transverse connecting fibres of its aponeurosis were found distended. In flexion of over 90 degrees the medial head and the ulnar nerve together slipped over the medial epicondyle (Figs. 1 and 2). The nerve did not show any pathological features. The medial head of the triceps was detached from its insertion in the olecranon and dissected from the ulnar nerve. The muscle was then diverted radially and its tendon was passed under and sutured to the central tendon of the triceps (Figs. 3 to 5). The ulnar nerve was returned to its original place in the epicondylar groove. At the end of the operation neither the medial head of the triceps nor the ulnar nerve slipped on flexion of the elbow. A voluminous cotton dressing was applied to limit the mobility of the elbow. The postoperative course was uneventful. The last follow-up examination, about nine months after operation, revealed a full range of movement of the elbow, without slipping of the medial head of the triceps or the ulnar nerve. The feeling of paraesthesia in the ring and little fingers had disappeared.

Case 2. A clerk aged twenty-six years was examined in our clinic because of snapping of his left elbow, accompanied by numbness in the ring and little fingers. Disturbed sensation had developed a few months before examination, but snapping of the elbow had existed for years. His left elbow had been injured at the age of six—probably a supracondylar fracture—but he had received no treatment. Examination of the elbow revealed a slight varus deformity, without limitation of movement. During active flexion, slipping of a thick structure, supposedly consisting of the medial head of the triceps and the ulnar nerve, could be seen and felt over the medial epicondyle. The patient reported a tingling sensation in the ring and little fingers, experienced at the time of snapping. The electromyographic study of the ulnar nerve was normal.

Operative treatment. The same approach as in Case 1 was used to expose the medial head of the triceps and the ulnar nerve. The pathoanatomical findings were similar, with the exception of a more pronounced entrapment of the ulnar nerve. The medial head of the triceps was detached from its insertion, passed under and sutured to the central tendon of the muscle. The ulnar nerve was transposed anteriorly. At the end of the operation there was no snapping on flexion of the elbow. As in the first case, no plaster was applied and the postoperative course was uneventful. Six weeks after operation there was a full range of movement of the elbow, no snapping and no feeling of numbness in the fingers. At follow-up, nine months later, the snapping of the elbow had returned and the thick structure containing the medial head of the triceps could be felt at the anterior border of the medial epicondyle. However, the patient reported no sensory disturbance and he was satisfied with his condition.

DISCUSSION

Friction neuritis of the ulnar nerve caused by intermittent dislocation of the medial head of the triceps over the medial epicondyle of the humerus seems to be rare and to the best of our knowledge has previously been
some additional trauma. In our cases, the additional trauma was probably the continuous friction caused by the intermittent dislocation of the medial head of the triceps.

One can only speculate about the possible reasons for the medial head loosening and separating from the entire muscle belly of the triceps. Traumatic factors could be considered as primarily responsible for distension of the transverse connecting fibres of the triceps aponeurosis: these fibres, which normally keep the heads of the muscle together, were found distended in both cases. However, in neither case did trauma appear to precede the clinical symptoms.

A congenital anomaly of the medial head of the muscle could explain its hypermobility and consequently the mechanism of slipping over the medial epicondyle. Under this assumption, one would expect the snapping phenomenon to affect the individuals very early in life and not to appear suddenly after the second decade. It seems that until more cases of this type are reported and more details accumulated, the exact aetiology of the dislocation of the medial head of the triceps will remain undetermined.

Our technique of reconstruction consisted of detachment of the medial head of the triceps from the olecranon and suturing it from beneath to the central tendon. The recurrence in the second case could probably be explained by disruption of the anastomosis of the medial to the central heads, due to insufficient immobilisation.

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REFERENCES
