

# Partial rupture of the distal biceps brachii tendon

## A case report

Traumatic rupture of the lacertus fibrosus in the biceps aponeurosis and elongation of a normal-appearing biceps tendon caused weakening in elbow flexion and forearm supination. Normal function was restored by shortening of the biceps tendon and aponeurosis 8 months after the accident.

Correspondence: Dr Nielsen, Aagårdsvej 23, Ødum, DK-8370 Hadsten, Denmark

## Kjeld Nielsen

Department of Orthopedics,  
Silkeborg Central Hospital,  
Silkeborg, Denmark

Two reports on combined rupture of the distal tendon of the biceps brachii and lacertus fibrosus are described in the literature (Dobbie 1941, Chevallier 1953), and no report mentions elongation of both parts of the tendon caused by a partial rupture.

We report a case in which scar tissue in the lacertus fibrosus and elongation of the biceps tendon without signs of rupture was found 8 months after an injury

## Case report

A 46-year-old worker slipped on ice while carrying a heavy box, and as he grasped the box, he experienced a sudden bursting around his right elbow. After 3 weeks on sick leave, he returned to work but noticed loss of power in the right arm especially when lifting or using a screwdriver.

Seven months after the injury, we found weakening of elbow flexion and forearm supination. The antecubital fossa was tender on palpation, and the round tendon of the biceps brachii was not palpable. A rupture of the distal tendon of the biceps brachii was suspected and surgery was performed 8 months after the injury. The antecubital fossa was explored by a curved skin incision, and a thickened flat grayish substance was noticed in the lacertus fibrosus. The biceps tendon was of normal surface structure, but appeared to be too long and slack. By pulling the tendon, normal supination occurred. The biceps muscle had no signs of previous rupture.

The lacertus fibrosus was resected and shortened by a V-plasty, and the round tendon of the biceps was shortened and brought to normal tension by a Z-plasty. A plaster cast was used for 5 weeks.

Eight weeks after the operation, flexion/extension of the elbow and supination/pronation of the forearm were

normal. The power was restored comparable to the nonoperated arm, and the patient returned to his previous work.

Microscopic examination of the removed part of the lacertus fibrosus showed scar tissue without degenerative changes.

## Discussion

The diagnosis of distal biceps tendon rupture must be suspected if there is a history of a sudden jerk in the elbow during a heavy lift. Examination reveals diminished force in elbow flexion and forearm supination and tenderness in the antecubital fossa. The cause of rupture in our case – heavy lifting combined with a sudden contraction in the biceps – is typical according to previous reports (Dobbie 1941, Friedmann 1963, Morrey et al. 1985). All the cases in the quoted reports were males in their fourth to sixth decade.

The benefit of reinsertion of the distal biceps tendon is well documented (Meherin & Kilgore 1960, Boucher & Morton 1967, Baker & Bierwagen 1985, Morrey et al. 1985, Friedmann 1963).

Dobbie (1941) noticed in his report on 51 cases of avulsion of the lower biceps brachii tendon that the lacertus fibrosus in most cases appeared to be intact. Chevallier (1953) stated in a case report that the avulsion takes place in two stages: first, the tearing and rupture of a pathologically changed tendon; secondly, as a cause of muscular contraction the tearing of the lacertus fibrosus. In our case the lesion was different: a rupture of the lacertus fibrosus and an elongation of the round biceps tendon. Probably the elongation was due to a previous rupture, which healed without macroscopic signs of scarring.

The literature on distal biceps tendon rupture pays no attention to the lacertus fibrosus, which anatomically is an anchorage of the biceps brachii tendon. We conclude that a rupture in the lacertus

fibrosus in cases of biceps tendon injuries should be repaired in order to reinforce the tendon suture.

## References

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