Anatomic Distal Biceps Repair

Dennis Debernardis, Tyler Radack, Luke Stanford Austin

Background

Distal biceps rupture is a frequent injury in middle-aged men and may lead to deformity, atrophy, chronic pain, and decreased strength. Multiple options are available for surgical repair. This video demonstrates anatomic biceps tendon repair via a two-incision approach.

Indication

The case presentation of a 42-year-old powerlifter who attempted to deadlift 661 lbs is presented. On attempting of lift the weight, the patient's left distal biceps ruptured. The incident was videotaped, and the mechanism of injury and the deformity were consistent with a distal biceps tear. An abnormal Hook test, supination, and weakness were used to confirm the diagnosis. No MRIs were obtained.

Technique

Anatomic distal biceps repair was performed via a modified Boyd-Anderson two-incision technique. A volar forearm incision is made, after which the cephalic vein and the lateral antebrachial cutaneous nerve are identified and retracted. The ruptured tendon is identified and débrided. Two whip-stiches (using nonabsorbable suture) are then placed, one of which is passed through the short head of the biceps and one of which is passed through the long head of the biceps. With the forearm pronated, the dorsal forearm incision is made. The incision is carried through the extensor carpi ulnaris and the supinator, exposing the radial tuberosity. The distal biceps tendon is then externally rotated and passed from the volar incision through the forearm, exiting the dorsal incision. Sutures for the short head of the biceps are placed distally, and sutures from the long head of the biceps are placed laterally on the tuberosity. The sutures arising from each head of the biceps tendon are fed through individual cortical buttons, and holes are drilled into the radial tuberosity at the respective insertion sites. After the buttons are inserted into the radial tuberosity, the sutures are tied.

Results

This video demonstrates a technique for anatomic reconstruction of a distal biceps after rupture. In this patient, full range of motion and return to powerlifting was achieved.

Discussion/conclusion

The described anatomic repair technique is a viable treatment option for distal biceps tendon repair, restoring native anatomy and function.