SCIENTIFIC JOURNAL
CEREM-GO

DOI 10.37951/2675-5009.2025v5i15.160
ISSN 2675-5009
e25160
SCIENTIFIC ARTICLE - CASE REPORT

RECONSTRUCTION OF THE DISTAL BICEPS TENDON WITH FLEXOR GRAFT: A CASE REPORT

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ABSTRACT

Chronic distal biceps injuries, which predominantly affect men between the ages of 40 and 60, account for approximately 3% of injuries to this muscle. These conditions are characterized by a duration of more than 4 weeks following the trauma and are often associated with factors such as degenerative tendinopathy and steroid use. They result in muscle atrophy and tendon retraction, making repair more complicated. When primary repair is not feasible, grafting techniques, such as the use of flexor tendons, are recommended. Repair with grafts and Endobutton presents an effective alternative for recovery in chronic cases.

Keywords: Tendon, Distal biceps, Chronic injuries, Graft, Endobutton.

INTRODUCTION

Chronic distal biceps injuries account for approximately 3% of injuries to this muscle, which is the primary supinator of the forearm, and are defined as injuries persisting for more than four weeks after trauma.[1] They most commonly affect the dominant limb in men aged 40 to 60 years during an eccentric contraction.[2] There is often an association with degenerative tendinopathy, endocrine disorders, mechanical impingement, and steroid use.[2] These injuries typically involve muscle atrophy, tendon retraction, and associated fibrosis, making repair a challenge.[3] In chronic cases, grafting techniques are employed, with options including the flexor tendons (semitendinosus), tensor fasciae latae, and palmaris longus, which are indicated when primary repair of the distal stump to its footprint is not possible, a common scenario in these injuries.[4]

CASE REPORT

This is a case of distal biceps tendon rupture in a 36-year-old man with an 11-week evolution, treated using a flexor tendon graft (semitendinosus) with a dual anterior approach fixation technique and endobutton use. The patient is a bodybuilding athlete, diagnosed through physical examination (positive Hook test and squeeze test) and imaging

(magnetic resonance imaging). The injury occurred due to an abrupt contraction following local trauma, despite not being the typical mechanism.

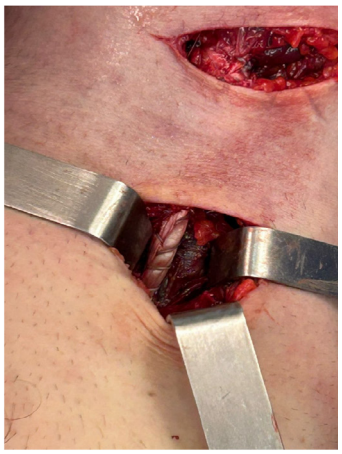

Figure 1: Result after suturing and graft insertion for the biceps.

Figure 2: Flexor graft used in the case.

DISCUSSION

The surgery was performed under general anesthesia with brachial plexus block and in a supine position with the use of a tourniquet. A 2.5 cm incision was made distal to the cubital crease, followed by dissection through layers according to Henry's technique, with the limb in maximum supination to locate the radial tuberosity and create the bicortical tunnel.[5] An additional incision was made 4 cm proximal to the crease for locating the retracted tendon stump and releasing the fibrous tissue. The semitendinosus graft was harvested and prepared at its insertion in the pes anserinus with the assistance of a knee surgeon. Krackow stitches were placed in the tendon stump along with the graft, reinforced by the Pulvertaft technique

at the myotendinous junction using high-strength sutures. The endobutton was passed and the graft tensioned (with the arm in 30 degrees of flexion) into the bicortical tunnel created at the radial tuberosity.[6] The technique proved effective, with no failure or loosening of the graft. A complication occurred with an initial wound dehiscence, which was resolved with dressing care. The patient progressed with full range of motion (flexion-extension and pronation-supination) within the first 3 weeks postoperatively, with no complaints of pain. Strength was similar to the contralateral side (grade 5 on the Medical Research Council scale), with good load progression during physical therapy and muscle strengthening exercises.

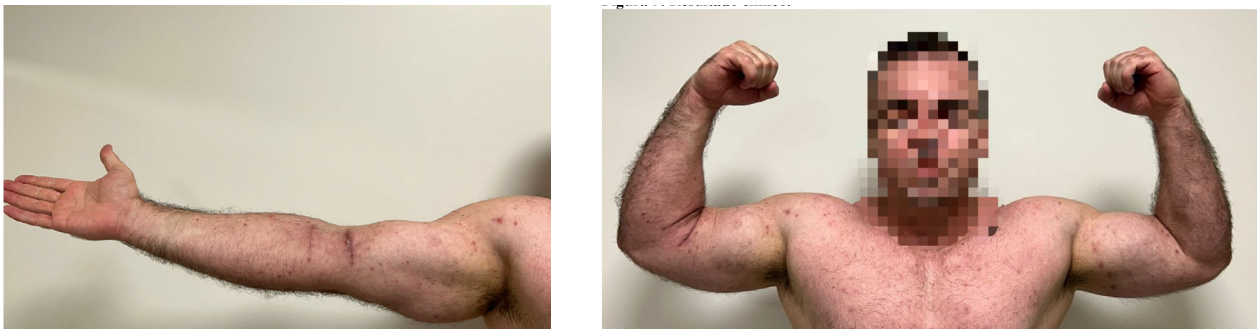

Figure 3: Clinical outcome.

CONCLUSION

Chronic distal biceps injuries lead to significant deficits in strength and mobility, especially in young individuals engaged in sports activities. Repair with a graft and Endobutton proves to be a viable and solid option for chronic distal biceps injuries with tendon stump retraction.

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EDITORIAL AND REVIEW

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Library Review: Romulo Arantes
Spell Check: Dario Alvares
Received: 13/02/25. Accepted: 18/02/25.. Published in: 06/03/2025.