

Latissimus Dorsi Tendon Transfer In Massive Irreparable Rotator Cuff Tears: A Case Report

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INTRODUCTION:

Rotator cuff tears cause severe functional impairment and chronic disabling pain that does not respond to the non-surgical treatment. Treatment selection is depending on the pain and functional dysfunction. A massive tendon tears are commonly associated with fatty infiltration and atrophy of respective muscle. These changes are irreversible even if the direct repair is structurally successful. Latissimus dorsi tendon transfer was first introduced by Gerber in 1988 for treatment of irreparable postero-superior cuff tears. The procedure can be done as a primary surgery or as a salvage procedure after failed other operative intervention. The aim of this procedure is to alleviate pain and functional disability.¹

MATERIALS & METHODS:

A 61 years old male patient presented with left shoulder pain after fall onto outstretched left hand. Physical examination showed tenderness at the greater tuberosity of humerus with positive drop arm test, painful Jobe test and positive lag sign of external rotation and internal rotation. Passive forward flexion and abduction was limited at 90 degrees.

Radiograph of the shoulder joint showed degenerative changes over acromioclavicular joint and acromio-humeral interval was 6mm. MRI of the shoulder showed a complete tear of infraspinatus tendon, and partial tear of supraspinatus and subscapularis tendon associated with joint effusion and muscle atrophy.

The latissimus tendon transfer was performed as primary surgery after 10 months of initial injury by Dr. Peter Campbell. Left shoulder diagnostic arthroscopic was performed and found the complete tear of all rotator cuff tendon at the insertion site. Debridement of acromioclavicular joint, Mumford procedure and subacromion decompression was performed. An incision was made over posterior axillary fold. Latissimus

dorsi tendon was identified and secured with suture. The superior portal was converted to mini open incision to provide access to the greater tuberosity of the humerus. A blunt dissection was made and latissimus dorsi tendon was transferred to the greater tuberosity, anterior to the midline. Tendon was secured with two arthrex suture anchor.

RESULTS:

The shoulder was immobilized for 3 weeks postoperative with arm sling. Pendulum exercise and passive shoulder motion including forward flexion, abduction and external rotation was started as tolerable. At 8 weeks, patient has completely pain free shoulder with almost full range of motion. Regular physiotherapy is crucial in order to get full muscle strength and the improvement is expected up to 1 year after surgery.

Figure 1: Latissimus tendon was identified and secured with suture.



DISCUSSIONS:

Treatment option for rotator cuff tear is depend on functional disability, pain score and patient's demand. Operative treatment is for patient who failed medical treatment, with significant pain and functional disability. Numerous tendon transfer for treatment of irreparable rotator cuff injury have been proposed including pectoralis major, teres major, trapezius, long head of triceps and lateral deltoid. However, latissimus dorsi tendon transfer is preferred due to its longer tendon caused less tendon pull out.²

CONCLUSION:

Latissimus dorsi tendon transfer in massive irreparable rotator cuff tear give a significant pain relief and good functional outcome.