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Response and Results of Patients with Non-Repairable Chronic Massive Rotator Cuff Tears to Non-Operative Management

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ABSTRACT

Response and Results of Patients with Symptomatic Chronic Massive Rotator Cuff Tears to Non-Operative Management

Background: Symptomatic chronic massive rotator cuff repairs continue to be challenging to treat. Although there is a host of information regarding surgical management including debridement, repairs and arthroplasty, there is little information regarding the outcomes of large populations to non-operative management.

Methods: The records of all patients who presented to the senior author with a symptomatic chronic, massive rotator cuff tear between 2009 and 2011 were reviewed. Tears were classified as massive if there was superior subluxation and less than 7 mm of acromiohumeral distance on shoulder radiographs. Patients who had undergone magnetic resonance imaging scans demonstrated fatty infiltration of the rotator cuff muscles greater than Goutallier stage three. The range of motion and UCLA shoulder score was recorded for each patient prior and after completion of treatment. Treatment consisted of a subacromial steroid injection, oral nonsteriodal anti-inflammatory medication, and a physical therapy program emphasizing anterior deltoid strengthening.

Results: The records of 117 patients with massive symptomatic rotator cuff tears who were treated during the study period were available for review. 87 patients reported improvement in symptoms and requested no further treatment and were instructed to continue their home program. Pain scores for this group improved from pretreatment mean of 6.1 (3-10) to 2.6 (0-5) at follow-up. Forward elevation improved from pretreatment mean of 114 degrees (40-170) to a post-treatment mean of 137 degrees (70 -170). UCLA scores improved from a pretreatment mean of 17 (11-23) to a post-treatment mean of 27 (17-32). 30 Patients continued were unresponsive to conservative management and underwent reverse shoulder arthroplasty. Pain Scores pretreatment in this group were 8.2 (5-10) and post-treatment 8 (7-9). Forward elevation pretreatment was 91 (45-170) and post-treatment 97 (50-160). UCLA score was 13.6 (9-18) pretreatment and 14.4 (9-19) post-treatment. There were significant differences (p<.02) with regard to pretreatment age, pain scores and UCLA scores. There was no statistical significant difference in pretreatment forward elevation or gender.

Conclusion: Non-operative management of symptomatic chronic massive rotator cuff tears yielded patient satisfaction in 74% of the study group. Forward elevation, pain scores and UCLA shoulder scores improved dramatically in this group of individuals. This study indicates the majority of massive rotator cuff tears can achieve patient satisfaction with non-operative management. Patients with better pretreatment pain scores, UCLA scores and older age were statistically more likely to achieve success with non-operative management. Further study is indicated to delineate variables which afford success in this subset of individuals.

INTRODUCTION

Nonrepairable Massive Rotator Cuff Tears may present with pain, weakness, loss of elevation and poor function

Previous studies have shown improvement in these parameters in small series.

The results of nonoperative management in nonrepairable rotator cuff repairs in larger populations have not been defined.

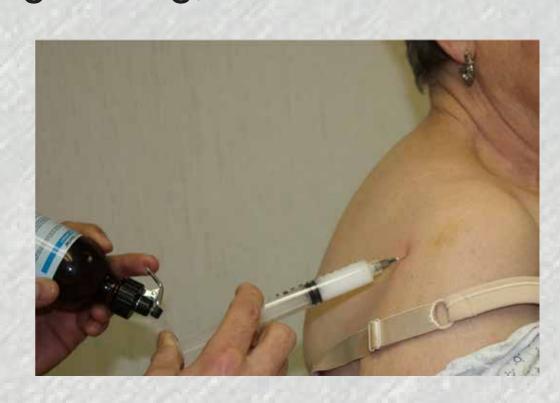


METHODS

Identification of 117 patients presenting to the senior author with a symptomatic non-repairable rotator cuff tear (Defined as a fixed high riding humeral head, narrowed or absent subacromial space or atrophy of >50% of rotator cuff musculature on MRI).

66 men, 51 females, mean age 73.1 (56-90); mean forward elevation 122 (30-165); mean pain score 6.7 (3-10); mean UCLA score 16.3 (9-23)

All patients underwent injection of corticosteroid, referral to physical therapy with emphasis on anterior deltoid strengthening, over the counter analgesics



87 patients reported improvement in symptoms and requested no further treatment and were instructed to continue their home program.

RESULTS

Pain scores improved from pretreatment mean of 6.1 (3-10) to 2.6 (0-5) post-treatment

Forward elevation improved from pretreatment mean of 114 degrees (40-170) to a post-treatment mean of 137 degrees (70 -170)

UCLA scores improved from a pretreatment mean of 17 (11-23) to a post-treatment mean of 27 (17-32) 30 Patients continued were unresponsive to conservative management and underwent reverse shoulder arthroplasty

Pain Scores pretreatment were 8.2 (5-10) and postreatment 8 (7-9)
Forward elevation pretreatment was 91 (45-170) and postreatment 97 (50-160)
UCLA score was 13.6 (9-18) pretreatment and 14.4 (9-19) post-treatment

There were significant differences p<.02) between the 2 groups with respect to pretreatment pain scores, UCLA scores and age. There were no significant differences between the groups when comparing forward elevation, gender

CONCLUSION

Non-operative management of irreparable massive rotator cuff tears yields in satisfactory outcomes in 75% of patients with

Significant improvement in pain scores
Significant improvement in forward elevation
UCLA scores which improved from poor to good



25% of patients did not respond to nonoperative treatment and eventually received a RSA. These patients exhibited:

Significantly higher initial pain scores

Statistically significant younger age

Further investigation

Durability of nonoperative results

Further delineation of variables leading to successful nonsurgical treatment

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