

Research Article
Orthopaedics

Shailesh Kumar K N¹, Intikab Alam¹

¹ - Assistant Professor, Department of Orthopaedic,
Yenepoya Medical College Hospital, Mangalore

FUNCTIONAL OUTCOME OF ROTATOR CUFF TEARS WITH CONSERVATIVE TREATMENT – OUR STUDY

Corresponding Author:

Shailesh Kumar K N
Assistant Professor,
Department of orthopaedic,
Yenepoya medical college Hospital,
Mangalore
Email ID: shaileshortho2000@yahoo.com

Article submitted on: 09 August 2017

Article Accepted on: 17 August 2017

Abstract:

Background : In the era of modern advanced surgeries patients from low and middle socio economic status find it difficult to afford the cost of surgical treatment for rotator cuff tear. Hence it might be beneficial to filter out patients who genuinely require surgical intervention.

Methodology: A prospective study of functional outcome of rotator cuff tear patients treated conservatively was conducted. Study consists of 45 patients between the age group of 38 to 65 years. Patients were treated with immobilisation for three weeks followed by aggressive physical therapy. Patients were evaluated using shoulder pain and disability index after 3 and 6 months.

Conclusion: We observed that there is 80 to 90 percent improvement in the pain and range of motion of rotator cuff tear patients with good physical therapy.

Key words: Functional Outcome, Rotator Cuff Tears,
Conservative Treatment

Introduction

Rotator cuff tear is one of the most common diseases among shoulder disorders in our daily practice. Prevalence of rotator cuff tear in general population was 22.1%.¹ patients with rotator cuff tear present with pain and inability to use the shoulder for over head activities. Conservative treatment affords satisfactory results when it is given to the patients with well-preserved motion and strength, although in some cases function may deteriorate with time

Materials and methods

Present study was conducted in a tertiary care hospital between 2013 and 2016. study group consist of 45 patients who presented with pain and inability to abduct the shoulder following a fall .All the patients were examined for drop arm sign.^{2,3} All patients underwent x ray of shoulder to rule out the fracture of greater tuberosity of the humerus and ultrasound to confirm rotator cuff injury.^{4,5}

Fresh patients (up to one week) were immobilised with a pouch arm sling for three weeks. Chronic patients (more than three weeks) were treated with physiotherapy directly. Patients presenting between first and third week of trauma were treated as per the chief complaints. If pain is the predominant symptom they are immobilised for two weeks along with oral analgesics and then started with physiotherapy. If disability is the main complaint they are started with physiotherapy. Physical therapy such as, ultrasonic therapy, stretching, passive and active range of motion exercises and muscle strengthening exercises⁶⁻¹⁰. Pain was managed with oral analgesics and if required shoulder injections.

All patients were evaluated with shoulder pain and disability index scale¹¹ for the functional outcome.

Patients showing improvement were continued with physiotherapy till 6 months. Persistence of pain and failure to achieve range of motion by 3 months were the indication for surgery.

Inclusion Criteria

- Absence of active abduction
- Drop arm sign positive
- Ultrasound confirmation of rotator cuff tear

Exclusion Criteria

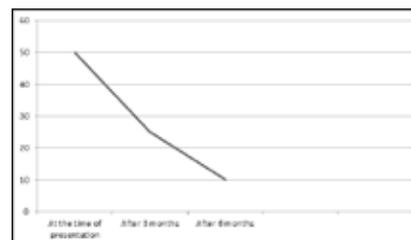
- Presence of shoulder stiffness
- Fracture of greater tuberosity of the humerus
- Any other associated injuries which may disable the patient for physiotherapy

Results

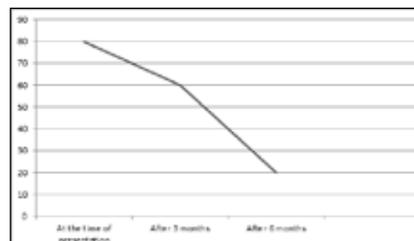
45 patients with rotator cuff tears were evaluated. 36 patients (80%) were partial thickness tears and 9 (20%) were of full thickness tear. Irrespective of the size or type of tear, all patients were evaluated using Shoulder Pain and Disability Index Scale. 80% of the patients had pain score of 92 and disability score of 100 at the time of presentation.

At the end of 3 months 80 percent of patients showed improvement in pain with the scoring of 60 and 60 percent of patients showed improvement in disability scale with scoring of 55.

After 6 months 92% of the patients had improved their pain and disability scoring to 20 and 30 respectively. 8% of the patients whose pain and disability score was above 30 and 40 were considered for surgery.



Graphic Representation of improvement in pain scale in rotator cuff injury with physiotherapy



Graphic representation of improvement in disability scale in rotator cuff injury with physiotherapy

Discussion

Our study consisted of 45 patients between the age group of 35 to 65years. Irrespective of the age, sex, time of presentation and type of tears, all patients were considered for physical therapy. Patients presenting with pain were immobilised for 3 weeks followed by physiotherapy. Evaluation was done using Shoulder Pain and Disability Index Scale before and after physiotherapy.

We observed that complete immobilisation of the shoulder for 3 weeks with analgesics followed by aggressive physical therapy improves pain and disability. Patients who presented only with disability also showed good improvement following physiotherapy. 4 patients, who did not show significant improvement in our study were of full thickness tears. 1 patient was an elderly female who presented 6 months after the injury. Other 3 patients were males within the age group of 40 to 45years. These

patients were managed with surgical treatment.

11 patients in our study had received steroid injections in to the Glenohumeral joint.

Conclusion

Rotator cuff tear has become common presentation in day to day practice. However MRI and surgical intervention for every rotator cuff tear may not be possible for people of low and middle class. Hence it is worthwhile to give a trial of good physiotherapy for 3 to 6 months .Most of the literature does show good result of 70 to 80 percent with physiotherapy. Our study also showed that early immobilisation followed by physiotherapy for 6 months yields good result.

References

1. Yamamoto A, Takagishi K, Osa-
wa T, Yanagawa T, Nakajima D,
Shitara H, Kobayashi T. Preva-
lence and risk factors of a rota-
tor cuff tear in the general popu-
lation. *J Should Elbow Surg.*
2010; 19:116–120. doi: 10.1016/j.
jse.2009.04.006. [PubMed]
[Cross Ref]
2. Hertel R, Ballmer FT, Lombert
SM, Gerber C. Lag signs in the
diagnosis of rotator cuff rupture. *J
Should Elbow Surg.* 1996;5:307–
313. doi: 10.1016/S1058-
2746(96)80058-9. [PubMed]
[Cross Ref]
3. Walch G, Boulahia A, Calde-
rone S, Robinson AH. The
'dropping' and 'hornblower's'
signs in evaluation of rotator-
cuff tears. *J Bone Joint Surg
Br.* 1998;80(4):624–628. doi:
10.1302/0301-620X.80B4.8651.
[PubMed] [Cross Ref]
4. Wolfgang GL. Surgical repair
of tears of the rotator cuff of the
shoulder. Factors influencing the
result. *J Bone Joint Surg Am.*
1974;56:14–26. [PubMed]
5. Jobe FW, Moynes DR. Delinea-
tion of diagnostic criteria and a
rehabilitation program for rota-
tor cuff injuries. *Am J Sports
Med.* 1982;10:336–339. doi:
10.1177/036354658201000602.
[PubMed] [Cross Ref]
6. Tanaka M, Itoi E, Sato K, Hamada
J, Hitachi S, Tojo Y, Honda M, Ta-
bata S. Factors related to success-
ful outcome of conservative treat-
ment for rotator cuff tears. *Ups J
Med Sci.* 2010;115:193–200. doi:
10.3109/03009734.2010.493246.
[PMC free article] [PubMed]
[Cross Ref]
7. Kuhn JE. Exercise in the treat-
ment of rotator cuff impinge-
ment: a systematic review and
a synthesized evidence-based
rehabilitation protocol. *J Should
Elbow Surg.* 2009;18:138–160.
doi: 10.1016/j.jse.2008.06.004.
[PubMed] [Cross Ref]
8. Kuhn JE, Dunn WR, An AQ,
Baumgarten KM, Bishop JY,
Brophy RH, Carey JL, Holloway
GB, Jones GL, Ma CB, Marx
RG, McCarty EC, Poddar SK,
Spencer Jr EE, Vidal AF, Wolf
BR, Wright RW. Effectiveness
of physical therapy in treating
atraumatic full thickness rotator
cuff tears. A multi-center prospec-
tive cohort study. In: 2011 Open
meeting, American Shoulder and
Elbow Surgeons, San Diego, 19
Feb 2011. [PMC free article]
[PubMed]
9. Minagawa H, Itoi E, Saito I.
Conservative treatment of rota-
tor cuff tears. *Rheumatology*
2001;25:494–500 (in Japanese).
10. Itoi E, Tabata S. Conservative
treatment of rotator cuff tears.
Clin Orthop. 1992;275:165–173.
[PubMed]
11. Roach et.al, shoulder pain and
disability index. *Arthritis care and
research.* 1991; vol.4, No.4, 143-
149