

To Compare Functional Shoulder Recovery in Patients of Grade III Acromio-Clavicular Dislocation: Conservative Vs Surgical Treatment

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ABSTRACT

Aim: To compare the mean of constant score in conservative versus surgical remedy in grade III AC dislocation patients.

Study design: Randomized Trial.

Setting & duration: Orthopedic Department, BVH, Bahawalpur from 19/07/2014 to 18/07/2017

Methodology: 80 patients were selected and divided into two remedy groups; Group-A (40 cases) conservative group and Group-B (40 cases) with surgical remedy.

Results: In Group A, 50% were male and 50% were female while in Group B 42.5% were male and 57.5% were females. In Group A, right side was affected in 60% subjects and left side was affected in 40 cases. In Group B, right side was affected in 52.5% and left side was affected in 47.5% subjects. The mean constant score was significant statistically in Group B vs A. There was no statistically significant difference when compared the mean constant score among age groups, gender and side involved.

Conclusion: Surgical remedy is better than conservative in terms of constant score in patients with Rockwood Type-III AC dislocation.

Keywords: Acromio clavicular dislocation, Rockwood type III, surgical remedy

INTRODUCTION

The acromioclavicular (AC) joint is mostly injured joint in sports and trauma. It is 9% of all injuries regarding shoulder^{1,2}. Rockwood classification is used. The aim of treatment is to resolve deformity, treat shoulder movement and stop pain. Treatment facilities are common. Rockwood Type-III AC dislocation is characterized by tear of AC and Coracoclavicular ligaments having >5mm elevation of AC joint in unstressed X-ray³. In a study by Gstettner et al. using constant score to describe the functional shoulder recovery between two groups showed better surgical treatment when compared with conservative treatment⁴.

At present no such type of study was conducted in Pakistan. The purpose of this study is to compare the functional shoulder recovery after the two treatment modalities by constant score. Conservative remedy is found effective.

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METHODOLOGY

Patients with Rockwood Grade-III AC Dislocation as per operational definition who presented within 48 hours of injury were included in the study. Patients of both genders were considered. Written consent was taken. Patients with pre-existing injury or deformity of the shoulder joint as per history were excluded. Patients with other associated injuries or fracture around the shoulder joint as per history were also excluded. Patients with open dislocation as per clinical assessment, neurovascular injury as per clinical assessment, or with severe osteoporosis assessed radiologically were also excluded.

After approval from Hospital's Ethical Review Committee, 80 patients were included in the study. Detailed history and written informed consent was taken from each patient. They were divided into two groups. Group A= Conservative remedy and Group B= Surgical remedy. All the collected data was entered into SPSS version 10. Numerical variables i.e., age and constant score presented by mean±SD.

RESULTS

Detail of results is given in tables 1, 2, 3, 4, and 5

Table 1: Gender Distribution

Gender	Groups	
	Conservative	Surgical
Males	20 (50%)	17 (42.5%)
Females	20 (50%)	23 (57.5%)
Total	40 (100%)	40 (100%)

Table 2: Distribution of Sides Involved

Groups	Sides	
	Right	Left
Conservative	24 (60%)	16 (40%)
Surgical	21 (52.5%)	19 (47.5%)
Total	45 (56.3%)	35 (43.8%)

P value=0.499

Table 3: Pain Improvement score in two groups

Groups	n	Mean± SD
Conservative	40	9.48± 3.13
Surgical	40	11.68±3.10

P value=0.002

Table 4: Mean Constant score in two both groups

Age (yrs)	n	Mean± SD
Young (18-25)	5	76.0±13.84
Middle (25-50)	56	76.0±12.22
Old	19	75.26±13.16

P value= 0.824

Table 5: Mean Constant Score in Right and Left Sides

Sides	n	Mean± SD
Right	45	76.13±12.49
Left	35	75.43±12.40

P value= 0.802

DISCUSSION

In one study, 17% to 28% of patients treated conservatively have disability with pain, weakness and instability of ACJ⁵. Gstettner et al. in 2008 used Constant score to describe the functional shoulder recovery between two groups and observed surgical treatment better than conservative remedy⁶. In a study by McKee et al. in 2012 contrasting results are seen i.e. conservative remedy was better than surgical remedy.⁷ When mean pain improvement

score was considered, surgical treatment was better than conservative remedy and this difference was statistically significant. Similarly surgical remedy was better than conservative remedy when considering mean activity of daily living score.

In this study, mean constant score was significantly better with surgical remedy when comparing with conservative one. These results are consistent with those of Gstettner et al.⁶ In another study by Spencer and Phillips et al, surgical treatment is better than conservative treatment in terms of mean of constant score in patients with Rockwood Type-III AC Dislocation^{7,8}.

CONCLUSION

Surgical treatment is better than conservative treatment in patients with Rockwood Type-III AC dislocation.

REFERENCES

1. Mazzocca AD, Arciero RA, Bicos J. Evaluation and treatment of acromioclavicular joint injuries. *Am J Sports Med* 2007;35(2):316–29.
2. Trainer G, Arciero RA, Mazzocca AD. Practical management of grade III acromio-clavicular separations. *Clin J Sport Med* 2008;18(2):162–6.
3. Ceccarelli E, Bondi R, Alvitri F et al. Treatment of acute grade III acromioclavicular dislocation: a lack of evidence. *J Orthop Traumatol* 2008; 9(2):105–8.
4. Esen E, Ozturk AM, Dogramaci Y et al. Comparison of Surgical Treatment and Conservative Approach for Type III Acromioclavicular Dislocations. *Turkiye Klinikleri J Med Sci* 2011;31(1):109-14.
5. Gstettner C, Tauber M, Hitzl W et al. Rockwood type III acromioclavicular dislocation: surgical versus conservative treatment. *J Shoulder Elbow Surg* 2008;17(2):220–5.
6. McKee MD, Pelet S, Vicente MR. Operative versus nonoperative treatment of acute dislocations of the acromioclavicular joint: results of a multicenter randomized, prospective clinical trial. *Upper Extremity Injuries* 2012;91.
7. Spencer EE Jr. Treatment of grade III acromioclavicular joint injuries: A systematic review. *Clin Orthop Relat Res* 2007;455:38-44.
8. Phillips AM, Smart C, Groom AF. Acromioclavicular dislocation: conservative or surgical therapy. *Clinical Orthopaedics and Related Research* 1998;353:10–7.