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Khan A, Samba A, Pereira B, Canavese F. Anterior dislocation of the shoulder in skeletally immature patients: comparison between non-operative treatment versus open Latarjet's procedure. *Bone Joint J* 2014;96-B:354-359.

Why this paper- This paper was chosen as it is relevant to our current practice and evaluates an important aspect of management of these injuries in young active population group where there is sparse literature on this topic.

Introduction: The authors have introduced that although the incidence of shoulder injuries is on rise in skeletally immature population and younger age is the predictor for higher dislocation rate, yet there is dearth of reports on management of these injuries.

Aim

- Compare surgical and non-operative management of traumatic anterior shoulder dislocation in skeletally immature patients
- Evaluate results of Latarjet operation in this group

METHODS

Study was conducted at 2 Institutions in France

- Approved by Local institutional review Board
- Retrospective 1993-2010

Inclusion criteria

- <16 years old
- Open growth plate on radiographs
- Radiologically proven anterior shoulder dislocation
- No concomitant fracture or neurovascular injury or polytrauma
- Operative management if Injury severity Instability Score (ISIS) ≥ 5 , Recurrence ≥ 3

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The two Groups

- Group I- 1st institution, Non –operative management , 1995-2010
- Group II- 2nd institution, Operative – Same surgeon, 1993-2010

Outcome

- Clinical, radiological and functional.
- All patients were examined by the senior author

Functional outcomes

- French version of the Quick Dash score for both surgical and non-operatively treated patients
- French version of the Satisfaction score after Shoulder Stabilisation (3S) – only for operated patients

RESULTS

49 out of 80 patients were included. Group1 had 23 patients (25 shoulders) and group two had 26 patients (28 shoulders)

Both groups were comparable in gender, age, dominant side, and age.

Mean ISIS was significantly different in two groups with mean score of 4.6 in group 1 and 8.7 in group 2. Median time to surgery from injury was 14.5 months.

Mean follow-up in non-operated group was 8.3 years from first dislocation and 9.7 years from operation in operated group. Although there was no significant difference in quick DASH score or pain but there was statistically significant difference in apprehension in favour of operated group. There were 2 cases of recurrence in operative (28 shoulders) and 14 cases of recurrence in non-operative group (25 shoulders). 2 patients in operative and 8 in non-operative group could not return to sports whereas 75% vs 36% returned to same level of sports respectively. High ISIs according to authors correlated with recurrence.

CRITIQUE

Strengths of the study

Hypothesis of the study corresponds to outcome.

The authors have defined the sample clearly and have provided inclusion /exclusion criteria lucidly.

Although it has not been clearly mentioned in the table that follow up was 8.3 years and 9.7 years, assuming the time period to be in years follow-up is adequate to provide a meaningful response to the treatment.

Methodological Concerns

This was a retrospective study with only 61% patients followed from originally identified cohort of the patients. Authors themselves have identified this as a limitation to the study.

There is no sample size estimation in the two groups.
As it was retrospective study blinding could not be done.

Surgeon himself acted as evaluator of the outcome which could lead to potential bias.

Outcome scores

There is no information that 3S score that they used is validated. Moreover, ISIS score that has been used is not universally accepted. ISIS score was published in 2007. We are assuming that this score was applied retrospectively as study includes patients from 1993 onwards. It has not been clarified. ISIS score has been associated with high recurrence but whether patients who had Hill Sach's lesion had more recurrence in non-operative group is not clarified.

Follow-up

Though there is difference in ER of 77 (Non operative) vs 62 degrees (operative) in two groups, clinical significance of that is not clear as positive apprehension was reduced in operative group.

Overall Conclusion

We feel that though there are some limitations, conclusion of the study is justified that it is reasonable to operate on skeletally immature patients with traumatic anterior dislocation the shoulder. Skeletal immaturity should not be considered as a contraindication for surgical repair after one or more episodes of recurrence.

This study is relevant to our practice. It is original and adds to our knowledge and its results can be extrapolated in our practice as it provides the evidence base required to operate on these patients.