Reviewer's report

Title: Treatment Strategies in Acute Traumatic Osseous Bankart Lesions Resulting from First Time Dislocation of the Shoulder A Two Year Follow-up Study

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Reviewer: Björn Salomonsson

Reviewer's report:

This is an interesting question that is proposed in the study. There might be some useful information to find but there are some questions to clearify.

Major Compulsory Revision =C
Minor Essential Revision= E
Discretionary Revisions = D

The Title:
It mentions strategies, but they are not so clear? (E)
The content is rather that surgical treatment is equal to non-surgical treatment, but not compared in the same size of lesions?

The Abstract:
The purpose is defined as to analyse first time dislocations, based on experiences of chronic glenoid rim fractures.

These experiences of chronic instability that would constitute this base for the algorithm are not defined, and it would indicate that treatment of first time dislocations are based only on experiences of treatment on recurrent instability. And not on the experiences that is to find in studies of first time dislocations. This might not be the optimal way to find guidance. (C)

Background:
Firstly the references 2-7 indicate that recurrent dislocations do not have the same incidence of glenoid defects as the first time dislocations, and that may influence the conclusions that could be drawn from recurrent dislocations. (E)

The worse results of shoulders with recurrent instability and glenoid lesions may be selected from those that have instability due to that lesion, while there may be an other group that are stable after first dislocation due to fracture healing of a glenoid lesion with less soft tissue damage because there was a fracture instead.

Most of the Background focuses on the recurrent instability, but what of the experiences from these that are considered as relevant to first time dislocation must be defined more detailed to understand the suggested algorithm. (C)
Those studies of treatment of first time dislocations that are cited are lacking of comparison to non-surgical treatment. (E)

Complementary to reference 11 (Maquieira) there are at least two other studies that has shown that glenoid rim fractures may well be treated conservatively, supporting this study in the treatment of smaller rim fractures non-surgically:

Vermeiren:
The rate of recurrence of traumatic anterior dislocation of the shoulder. A study of 154 cases and a review of the literature.
Vermeiren J, Handelberg F, Casteleyen PP, Opdecam P.

Salomonsson:
Bony Bankart is a positive predictive factor after primary shoulder dislocation.
Salomonsson B, von Heine A, Dahlborn M, Abbaszadegan H, Ahlström S, Dalén N, Lillkrona U.

Methods:
I’m not certain that this really is a case control study, since the two groups have different lesions (in size). The study would have been able to answer the questions if there had been both types of lesions in both treatments? (D)
The time period seems not well described since only a very few patients are recruited in 2004 according to Table 1, Were the incidence really that different? Lost to follow up? (D)
The exclusions mentioned are not defined by their number of patients. Neurological deficits are common in the elderly trauma cases that are included in this study, but e.g. axillary nerve deficits may be transitory. How many had a change of therapy within the algorithm (e.g. when did the algorithm not work?). (E)

A CT-examination in every patient with first time dislocation is rather extensive use of resources, what incidence of large glenoid fractures not identified on plain radiographs could be expected that would change the treatment algorithm? Or is there a selection from the plain radiographs with suspected glenoid lesions? (C)

Fracture size was quantified by 3D CT calculating the glenoid ring, but you do not exemplify by any figure how this was done, and in figure 3b it looks like you measure the diameter instead? (C)

More, I would suggest that the instability or stability of the joint would influence the result, e.g. if the joint is centered or subluxated after repositioning. Was that any part of this algorithm. (E)
Surgical treatment were 3 different methods, maybe this will be confusing the analyze?

When including adifferent methods into the algorithm depending on the fracture pattern, was the statistical Power to detect differences analysed? (E)

The study is retrospective, how was the patient compliance with the rehabilitation assessed, did they really stay in a sling for 6 weeks? (D)

The Rowe score used should be defined as the 1978 version. (D) There could have been a place for a patient self evaluated outcome measure as well as redislocation/Rowe score.

Results:

Studies have shown (e.g. Hovelius) that patients over 30 years have a low recurrence rate, and it is known that they have a higher incidence of fractures, neurological lesions and cuff lesions at dislocations. So the higher age in the larger fractures are expected, and with the mean age reported the recurrence rate should not be high either. Were the different surgical treatments also different in age? In page 6 it is uncertain what you mean by “one patient in both groups”? was it a bilateral case? (D)

Again was there any Power analyse done on statistical differences of complication rate (what was the definition of complication, stiffness, redislocation, apprehension)? (E)

Discussion:

Comparisons here are mixed first time dislocations and treatment of chronic instability of recurrences, which should be mentioned in each reference what they are, or perhaps organised in separate comparisons. (D)

Which fracture classification is used when mentioning type IIIb, Baker or Bigliani, other? (E)

Page 8, first half, is partly new results that should be moved to results. (E)

The average Rowe score did not “happen” to be 86. It was 86? (D)

Again, what was the consideration from treatment of chronic instability that the algorithm is based on. (C) Did you have the algorithm from 2004 in its present form written down for patient selection, or has this been subject to changes or development during a longer time or after 2004?

Conclusion:

Are these results different from overall non-surgical treatment in this age group from other studies? (D)

Are you able to tell anything about the treatment algorithm, you do not assess the aim of the study in your conclusion.

This study only tell that two different lesions, treated in two different ways, do not
really differ in result. With this small population I think that you would benefit in the discussion and conclusion to have defined how the algorithm was constructed. (E)

And we really need to test that the treatments are effective, or if the smaller lesion would be ever better with surgery and if the larger lesions really do better after surgery than with non-surgical treatment, to say that the algorithm is tested for its effect? (D)

Figure 1
How do you include CT into the algorithm, all patients or selected for possible fractures? (E)

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests