Reviewer's report

Title: Outcome analysis following removal of locking plate fixation of the proximal humerus

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Reviewer: James Kellam

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Outcome Analysis Following Removal of Locking Plate Fixation of the Proximal Humerus.

This is a well written study done in appropriate prospective observational manner. In fact it is probably the first paper that the reviewer knows of that looks at the effect of hardware removal in a prospective fashion. This gives its results and conclusions a much greater credibility. It is also written on a topic that is of interest to all orthopaedic trauma and general trauma surgeons that is the proximal humeral fracture. There is an increasing incidence of this fracture and increasing operative intervention. This paper gives interesting results that may change the practice of surgeons with regards to recommending hardware removal as a useful procedure to improve the clinical result.

Discretionary

Overall the paper is well written but I would recommend that the authors perhaps reread the paper and try to shorten the introduction and the discussion and be more precise and concise in their language. I have not attempted to do this as it is difficult to do and not change the meanings of their conclusions. However, the paper does read a little long.

Major compulsory questions are

1. Page 4 line 94 when they refer to “adequate time period” to reach maximal recovery. I believe that this should be a time period or a definition. With the term as it is, it is very vague as to how long they did wait and what was considered a maximal recovery.

2. Page 4 line 98 on the impingement group. Do the authors have any criteria that they used radiographically for determining whether or not the plate is too high and is causing impingement.

3. Page 5, line 116, they talk about the plate being removed after the tension band wiring. There is some confusion as to what this means. Did they tension band wire the fracture prior to removal or did they also remove the tension band wire when the plate came out.

4. As to the results, I would be interested to know two other important pieces of data. First would be what is the total number of proximal humeral fractures that they have seen during this study time period. The second questions is the total
number of open reductions and internal fixations done in which hardware was not removed. Also, if the authors do have any information, on this group of ORIF without hardware removal so as to compare it to the removal group.

Technical suggestions to the authors with regards to terminology are as follows:

1. On page 4, line 93, they have a sentence which states “all fractures were conjoined radiographically”. This is not a known term in English and needs to be defined.

2. On page 4, line 97, I would simply say that “instead of according to medical reasons”, I would state “according to the reason for hardware removal, the patients were divided”.

3. On page 4, line 99, I would state that “instead of to inadequate high-plate”, I would state “to superior plate placement”.

4. On page 4, line 101, “time, hardware in place” probably should be replaced by “duration of implantation” or “duration of fixation device implantation”.

5. On page 5, line 116, the word “uncovered” should be “exposed”.

6. On line 117 on page 5, the sentence beginning with “Fluoroscopically” I would suggest be changed to “Complete hardware removal was confirmed by fluoroscopy”.


Level of interest: An article of outstanding merit and interest in its field

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

Statistical review: No, the manuscript does not need to be seen by a statistician.