Reviewer’s report

Title: Comparison between minimally invasive plate osteosynthesis and open reduction–internal fixation for proximal humeral fractures: a meta-analysis based on 1050 individuals

Version: 1 Date: 06 Sep 2019

Reviewer: Amin Mohamadi

Reviewer's report:

This is an interesting topic to orthopedic trauma and upper extremity care. There are various treatment options for fractures of proximal and this meta-analysis compares clinical outcome and complication rate of minimally invasive plate osteosynthesis and open reduction-internal fixation. The study is conducted well, the databases, search phrases and additional steps for identifying missing studies in electronic search seems appropriate. The statistical approach, quality assessment of studies, and the use of mean difference, odds ratio and standardized mean difference (SMD) are correct. The results and discussion are well written.

The comments:

1. Page 5, line 110: p-value ≤ 0.05 was considered significant; although this is not incorrect the convention is to consider p-value < 0.05 significant. The Auxiliary nerve injury will be near significant in this scenario.

2. Page 6 literature search: the total number of studies seems too low; please provide the full search strategy for PubMed.

3. Since the heterogeneity is significant for many outcomes, please explore source of heterogeneity in a sensitivity analysis reporting separate results based on type of study (i.e. two separate sets of analyses for randomized trials and non-randomized trials including cohort or observational studies).

4. Page 9, line 191: "Funnel plots of the total complication rate showed no significant visual evidence of publication bias" I recommend rephrase this sentence to "Funnel plots of the total complication rate showed no substantial asymmetry indicating no significant risk for publication bias".
5. The funnel plot should be drawn for main outcomes (clinical outcome); this can be done so using SMD.

6. The conclusion is similar previous network meta-analysis Orman S, Mohamadi A, Serino J, Murphy J, Hanna P, Weaver MJ, Dyer G, Nazarian A, Keudell AV. Comparison of surgical and non-surgical treatments for 3-and 4-part proximal humerus fractures: A network meta-analysis. Shoulder & Elbow. 2019 Feb 28:1758573219831506. I think it would be worthwhile to address this publication as well since it is the most meta-analysis on this topic to my knowledge.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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