

Dear Jin-Lei Wang and reviewers.

Thank you for your letter and the reviewers' comments on our manuscript entitled "Arthroplasty versus Proximal femoral nails for unstable intertrochanteric femoral fractures in the elderly: a systematic review and meta-analysis of randomized controlled trials" (ID:69155). Those comments are very helpful for revising and improving our paper, as well as the important guiding significance to other research. We have studied the comments carefully and made corrections which we hope meet with approval. The main corrections are in the manuscript and the responds to the reviewers' comments are as follows (the replies are highlighted in blue ).

Replies to the reviewers' comments:

Reviewer #1:

1) First of all, the number of included studies is small (only 4) to reach to safe conclusions.

Response: Thank you for reminding us about the number of studies included. After searching and discussing, we found that there were only 4 eligible studies. Therefore, we finally reached a relatively conservative conclusion.

2) Moreover, there was no subgroup analysis performed for the different groups of intertrochanteric fractures. It is unclear if the results are presented only for unstable intertrochanteric fracture or for both groups (stable and unstable). The authors could look for personal contact with the authors of the included studies to gain information about the outcomes of each group of intertrochanteric fracture separately.

Response: Thank you for your advice. We have tried to contact the authors of four studies, but there was no response. This study is only for elderly patients with unstable intertrochanteric fracture. In the included study, although Jolly's study does not give a clear fracture classification in the text, considering that the author clearly pointed out in the title that it is a study on unstable intertrochanteric fracture, it also meets our inclusion criteria. The number of stable fractures accounted for only 7% of the total number, and the corresponding data were not given in the original literature, so it was not excluded in the meta-analysis.

3) Most of the outcome presented with high heterogeneity. Therefore, the reasons for this statistically high heterogeneity should be further discussed.

Response: Thank the reviewer for the comments. We revised the manuscript accordingly. In the discussion part of the revised paper, we added the analysis of heterogeneity (the words are highlighted in red ). Through further sensitivity analysis, we found that the reason for the high heterogeneity is mainly due to Kim's research. After repeated discussions, we believe that it may be related to the time of the research. In that era, many techniques for arthroplasty were still in development. Therefore, there will be a big difference between it and the research more than ten years later. But we still think it is necessary to merge its results, because this is a necessary stage in the development of surgical technology.

4) The authors could elaborate more on the reasons for the differences found between arthroplasty and PFN for the treatment of unstable intertrochanteric fractures.

Response: Thank you for your advice. In the discussion part of the revised paper, especially in the

paragraphs of blood loss and operation time, we added the description of the difficulty of arthroplasty (the words are highlighted in red ). Except for the surgeon's experience, arthroplasty requires more advanced technology to perform, and the degree of fracture comminuteness can make fixation difficult. These may be the reasons for the differences.

Once again, thank you very much for your constructive comments and suggestions which would help us both in English and in depth to improve the quality of the paper.

Kind regards,

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