Author’s response to reviews

Title: Proximal femoral nails anti-rotation versus dynamic hip screws for treatment of stable intertrochanteric femur fractures: an outcome analyses with a minimum 4 years of follow-up

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Dear Editors and Reviewers:

Thank you for your letter and for the comments of the editors and reviewers(Professor Qian Liu and Professor Marcelo Guerra). Thank you for consideration of our manuscript for publication in your journal. We have reviewed the above manuscript according to the reviewers’ comments. Those comments are all valuable and very helpful for revising and improving our paper, as well
as the important guiding significance to our researches. Based on the comment and request, we have studied comments carefully and have made modification which we hope meet with approval. Below you will find our point-by-point responses to your comments:

Reviewer #1 (Professor Qian Liu)

1) The conclusion is unclear. Since the authors only compared outcomes of PFNA with DHS, it is improper to state that “DHS device is not likely the preferred implant for stable intertrochanteric femur fractures”. Furthermore, the conclusion in the abstract is not consistent with the one in the text.

The conclusion of the study (final sentence of the background section of the paper) has been changed to be more explicit and now appears as follows:

“Compared with PFNA device, DHS device might not be the preferred implant for stable intertrochanteric femur fractures.” instead of “Given reoperation rate and post-operative HHS after 1 year postoperatively, we believe, DHS device is not likely the preferred implant for stable intertrochanteric femur fractures.”

2) The background is somewhat disorganized and lacking of direct references. Most of the literatures cited in the background are meta-analysis, in which many trials included both stable and unstable fractures. It would be better that the authors reference studies regarding the outcome of PFNA or DHS in treating stable intertrochanteric fractures.

A single research regarding PFNA or DHS treating stable intertrochanteric fractures is much less. So far there have been no SCI paper found about this aspect.

3) The authors reported radiographic outcomes in the section of complications which detracts from the focus. It is recommended that the author separate the radiographic findings from the complications. Moreover, why did the authors not perform any parameter measurement on the radiographs, such as the tip-apex distance and the amount of femoral neck shortening.
The reviewer is correct. Radiographic outcomes (orthopaedic complications) in our paper and non-orthopaedic complications are shown in Table 3. We actually find that in most papers it can produce a very good performance.

It isn’t femoral neck fracture, but stable femoral intertrochanteric fracture (Type A1, simple two-part fractures). It appears that there isn’t an obvious change of the amount of femoral neck shortening or TAD.

4) Why were time of return to preoperative ambulation, operating room time, blood loss etc. between PFNA and DHS groups not included, which are common parameters in previous literatures. (E.g. Saudan et al, Is there an advantage to an intramedullary nail? A randomized, prospective study of 206 patients comparing the dynamic hip screw and proximal femoral nail; Adams et al, Prospective randomized controlled trial of an intramedullary nail versus dynamic screw and plate for intertrochanteric fractures of the femur.)

Regarding this issue (time of return to preoperative ambulation, operating room time, blood loss etc. between PFNA and DHS groups not included):

① With regard to stable femoral intertrochanteric fracture (Type A1, simple two-part fractures), these parameters have fewer clinical guiding significances. That is to say we don’t consider these parameters being widely available to clinicians. They aren’t included in the study, which is consistent with our main purpose observing the long-term effect of two kinds of implants rather than a short-term effect.

② The effects of short-term also need further study in the future work, especially these parameters as indicated by Professor Qian Liu.

③ The significant heterogeneity for these parameters may be attributable to variation in the skills of the surgeons and the different hardware conditions of hospitals.
④ Noteworthy, in order to avoid risk of bias and imprecision of the results, and decrease the rate of type I error and false positive in statistics, these parameters are not included.

⑤ In most previous literatures, authors compared PFNA with DHS for treatment of stable and unstable intertrochanteric fractures, and they concluded that PFNA could benefit intertrochanteric fractures patients with less blood loss and less operating room time, which is basically recognized. This may be because DHS placement requires a relatively large exposure and significant soft tissue stripping, which cause serious bleeding and operating time. Also, we found no significant difference in the time of return to preoperative ambulation in most literatures between PFNA and DHS. These findings was supported by other meta-analyses[1] rather than single studies (small sample size) which have various designs, different methodologies and insufficient power, and increase random error and fail to get a precise estimate for clinical interventions.

5) Why was the PFNA group was also referred to as the PFNA-Ⅱ group? The term should be unified.

“PFNA” instead of “PFNA-Ⅱ”. Many thanks for your kindness

6) The following statement should be referenced: “there has been a trend toward more DHSs in stable IFFs”.

The sentence has been changed in the manuscript and appears as follows: there has been a trend toward more DHSs in stable IFFs[2].

7) The Discussion is lacking in some focus and should be structured to describe the significance of the findings of the authors study and focus less on the prior meta-analysis.

The Discussion section has been changed as the reviewer indicates.

Reviewer #2 (Professor Marcelo Guerra, MsM MD)

Review #2 has no suggested changes for the manuscript. Thank you for Accept without revision.
References