

ANSWERS OF REVIEWERS

Respected reviewers, here I tried to answer your all questions regarding my manuscript.

Reviewer's code: 05208471

Q. What are the original findings of this manuscript?

A. In our manuscript all shown results are original and we didn't modify any findings

Q. What are the new hypotheses that this study proposed?

A. Proximal femoral nailing done without distal locking could be a reliable and acceptable option for intertrochanteric fractures (AO/OTA 31-A1 and 31-A2).

Q. What are the new phenomena that were found through experiments in this study?

A. In fracture pattern 31-A2, PFN without distal interlocking had better results and lesser complications than PFN with distal interlocking but in fracture pattern 31-A1, both groups had same results.

Q. What are the hypotheses that were confirmed through experiments in this study?

A. Proximal femoral nailing done without distal locking is reliable and acceptable option for intertrochanteric fractures (AO/OTA 31-A1 and 31-A2).

Q. what are the quality and importance of this manuscript?

A. This is an original type of manuscript with all original data and all patients were followed up to 14 months with all clinical and radiological documents. We had done statistical analysis of this study with qualified statistician. All surgeries were performed by same chief surgeon which minimizes the chances of surgical method variation and errors. All these things lead to improvement in quality of our study.

Q. What are the new concepts and findings that this study proposes?

A. Our study proposes that it is not necessary to do distal interlocking in fracture pattern AO/OTA 31-A1 and 31-A2.

Q. Do the conclusions appropriately summarize the data that this study provided?

A. Yes we have appropriately summarized the data in conclusion.

Q. What are the unique insights that this study presented?

A PFN without distal interlocking is a reliable and acceptable option for IT fracture types AO/OTA 31-A1 and 31-A2.

Q. What are the key problems in this field that this study has solved?

A. Proximal locks related problem in pfn which occurred due to distal interlocking that were solved by not doing it in ao/ota 31 a1 and 31 a2

Q. How many surgeons were involved?

A. All surgeries were performed by same chief surgeon .

Q. Why is the complication rate in the distal locking group this high?

A. In our study we noted that the cases where distal interlocking was done, there was gradual decrease in neck shaft angle which led to varus collapse and failure of bone-implant construct resulting in higher complication rate.

Q. What was the rationale for using a bi-screw nail instead of a regular PFN with a single femoral neck screw as most surgeons do, and could this be a cause for the high complication rate?

A. Anatomical designed long PFN having two proximal interlocks which maintains intertrochanteric fracture reduction in good valgus position and provides excellent rotational control of proximal fragment. It is not a reason for high complication rate .

Q. what are the limitations of the study and its findings?

A. We are still waiting for long term follow up and could add more patients.

Q. What are the questions/issues that remain to be solved? What are the questions that this study prompts for the authors to do next?

A. We are still taking long term follow up of these patients and plan to add more patients.

Q. How might this publication impact basic science and/or clinical practice?

A. This study finding helps in clinical practice to reduce proximal locks related complications by not doing distal inter locking

Reviewer's code: 05098908

Q. The background of the abstract is too similar to the introduction, it would be appropriate to diversify a little.

A. I had changed it in revised manuscript

Q. Some references should be added regarding the traumatic mechanism, diagnosis, treatment, and prognosis that can occur after this type of fracture,

A. Reference added as suggested by you

Q. " The incidence of fractures in the trochanteric area has risen with the increasing numbers of elderly persons with osteoporosis." Please, adding some bibliographic references.

A. Reference added

Q. "Distal locking screws of the intramedullary nail were designed for preventing longitudinal or rotational instability as well as movement of the nail distal tip in cases of a wide canal for the intertrochanteric fracture." Please, adding some bibliographic references.

A. Reference added

Q. It would be advisable to specify the experience of the operator who performed the interventions, and to specify whether it was always the same.

A. all surgery were performed by same chief surgeon.

Q. why did you use the long anatomical designed PFN for 31-A1 and 31-A2 fracture pattern?

A. long nails will avoid diaphyseal stress risers and make peri-prosthetic fracture rates acceptable. Short PFNs do not follow the anatomical curvature and the tip may impinge the

endosteum of the anterior femoral cortex giving rise to anterior thigh pain. Long PFNs follow the anatomical shape of the femur and would not cause such a problem.

Q. Why did you not assess the age in the two patient groups? Was it or was it not statistically significant?

A. The main thing in our study to demonstrate complication related to distal interlocking which can occurs in any age group.

Q. It would be worth referring to the limitations of your study,

A. I had added limitations of the study in the manuscript.

Q. Would it be appropriate to refer to the rehabilitation protocol used in patients? was it the same in both groups?

A. Yes we had sent all patient to same rehabilitation programme..

Q. In the results some numeric data are unclear: The discussion is poorly elaborated, with few bibliographical references on the topic, with little attention to the different type of surgical techniques and type of type of intramedullary nail. Please add some references, for example: (Hoffmann MF, et al (2019) "Outcome of intramedullary nailing treatment for intertrochanteric femoral fractures").

A. We had added some more points in discussion in revised manuscript and added some references suggested by you.

Reviewer's code: 05208471

Q. Some of the results are still mentioned in the introduction

A. we have not mentioned any points regarding results of our study in introduction

Q. Determining strategy for each patient (distal interlocking or not) is not described in the methods, this introduces a big risk of selection bias.

A. Our study is a retrospective one in which the patients were selected randomly without any selection bias.

Q. the conclusion it too strong for a retrospective study.

A. In our study we had followed up patients record and clinical aspects in detail which significantly reduced chances of error so it won't affect result that much, still there was some limitation in our study

Apart from these questions and comments,we have solved and corrected the issues which are necessary for manuscript revision in the revised manuscript. We have also done proofreading of English language by experts by FILOPODIA .

I hope all the questions of reviewer and comments are answered in this file and revised manuscript. Looking forward for positive response from your side.

Thanking you,