

Dear Editor,

Thank you for reviewing our paper “*Complex fractures of the distal femur in patients over the age of 85 treated with megaprosthesis: surgical treatment and results in a case series of eleven patients*”. We appreciate your comments and suggestions. We hope we have made the necessary changes but we are happy to make further clarifications if felt necessary. We hope that you will consider our revised manuscript for publication in *World Journal of Orthopedics*.

Sincerely,

The Authors of the manuscript No. 74560

Please find our responses to the reviewer’ comments below:

Reviewer Comments:

**Reviewer #1:**

*Dear Authors: Thank you very much for your dedication and effort in this work, here are some ideas to improve your manuscript: - The introduction is correct, however in the material and methods section you should specify certain aspects more.*

Dear Reviewer, thank you for taking the time to revise our manuscript. We appreciate the opportunity to improve our work through your insightful comments.

*Why do you consider over 85 years of age as an inclusion criterion? You should describe it.*

Thank you for your comments, this is a very important aspect indeed. The use of megaprosthesis has been widely adopted in the setting of extensive bone loss, as seen with metastatic disease, primary malignant tumors, and revision arthroplasty. In more recent years, megaprosthesis have found an emerging role in treatment of major trauma with significant bone loss (Siddiqi et al., 2022). The reason to restrict our inclusion criteria to patients over the age of 85 was based on the clinical finding of the overall bad outcomes reported for these patients following complex fractures of the distal femur. Almost all patients at this age present with osteoporosis and variable degrees of knee osteoarthritis. Even in the setting of perfect care with early intervention and stable fixation of the fracture, many patients develop knee stiffness, pain, fixation failure, and difficulty with mobilization (Tampere et al., 2020). The goals of distal femur replacement (DFR) surgery are to resect the fracture and to allow full weight bearing as soon as possible to reduce hospital stay and to prevent complications such as deep vein thrombosis, pulmonary complications, and other sequelae of post-operative decreased mobility. This is particularly true in elderly patients, like the ones included in our study.

We have added a sentence in the materials and methods section of the manuscript detailing the reason for our age inclusion criteria.

*How do you carry out the study of the sample of 11 patients, why? How do you include the 10 women and one man, why? You should expand on this information.*

Our study was conducted on patients operated on between 2014 and 2019 at our Institution. Because of the strict inclusion criteria we operated on a total number of 11 patients within that time period. We included all consecutive patients operated on during that time period. Although the number of patients is small, one should consider the fact that this represent an omogenous population with strict inclusion criteria. This definitively adds to the generalizability of our results.

*They say that they carry out a subsequent follow-up, but they do not describe how this follow-up is carried out, at home, by telephone, outpatient, etc. They should describe it.*

Thank you for your comments. All follow-up appointments were scheduled in person at our outpatient clinic. We have specified this aspect in the manuscript.

*In the results they describe that there is improvement in all the variables studied, but in my point of view they should express these favourable changes as a percentage of change or as an index of minimum change or something similar that could fit in this section. Otherwise, this section would lack statistical analysis, even if it is simple, they should add it to justify that scientific evidence in thei treatment. Regards.*

Thank you for your comment and suggestion. While a formal statistical analysis was not possible because of the lack of a control group, we agree that presenting percentage changes of our outcome variables will add to the general quality of the manuscript. We have added percente changes in the result section of the manuscript. The Oxford Knee Score (OKS) from average 29.5 points immediatly after surgery to 36.8 points at the time of the last follow-up (+24.8%). Similarly, VAS score improved from average 4.5 immediatly after surgery to 1.9 at the time of the last follow-up (-57.8%).

**Reviewer #2:**

*Dear Authors, this is a well-written manuscript whit a clear message. I do recommend publication of the manuscript.*

Dear Reviewer, thank your for taking the time to revise our manuscript. We appreciate your time and efforts.

**Scientific editor:**

*This manuscript evaluated the safety and efficacy of the knee megaprosthesis in the setting of complex fractures of the distal femur in elderly patients by retrospectively evaluating the clinical information of 11 patients over the age of 85 years. Please describe in detail the reason why the inclusion criteria are patients over 85 years old; explain the specific follow-up information; it is recommended to use data for statistical analysis to explain the improvement effect of variables.*

Dear Scientific Editor, thank you for taking the time to revise our manuscript. We appreciate your comments.

The reason to restrict our inclusion criteria to patients over the age of 85 was based on the clinical finding of the overall bad outcomes reported for these patients following complex fractures of the distal femur. Almost all patients at this age present with osteoporosis and variable degrees of knee osteoarthritis. Even in the setting of perfect care with early intervention and stable fixation of the fracture, many patients develop knee stiffness, pain, fixation failure, and difficulty with mobilization (Tampere et al., 2020). The goals of distal femur replacement (DFR) surgery are to resect the fracture and to allow full weight bearing as soon as possible to reduce hospital stay and to prevent complications such as deep vein thrombosis, pulmonary complications, and other sequelae of post-operative decreased mobility. This is particularly true in elderly patients, like the ones included in our study. We have added a short sentence to the manuscript highlighting this specific aspect.

All follow-up appointments were scheduled as in person visits at our outpatient clinic. We have specified this in the methods section of the manuscript.

As also suggested by Reviewer #1 we have added percentage changes in the outcome variables used in our manuscript. Although no formal statistical analysis could be performed because of the lack of a control group, we believe that adding percentage changes in outcome variables will add to the general readability of our manuscript and also guide readers in better understanding our data.

**Company editor-in-chief:**

*I have reviewed the Peer-Review Report, the full text of the manuscript, and the relevant ethics documents, all of which have met the basic publishing requirements of the World Journal of Orthopedics, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office's comments and the Criteria for Manuscript Revision by Authors.*

*Before its final acceptance, please upload the primary version (PDF) of the Institutional Review Board's official approval in official language of the authors' country to the system; for example, authors from China should upload the Chinese version of the document, authors from Italy should upload the Italian version of the document, authors from Germany should upload the Deutsch version of the document, and authors from the United States and the United Kingdom should upload the English version of the document, etc.*

We have uploaded the original pdf version of the Institutional Review Board approval for our manuscript.

*The title of the manuscript is too long and must be shortened to meet the requirement of the journal (Title: The title should be no more than 18 words).*

Thank you for pointing this out. We have revised the title: “Distal femur complex fractures in elderly patients treated with megaprosthesis: results in a case series of eleven patients”.

*Before final acceptance, uniform presentation should be used for figures showing the same or similar contents; for example, “Figure 1 Pathological changes of atrophic gastritis after treatment. A: ...; B: ...; C: ...; D: ...; E: ...; F: ...; G: ...”. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. In order to respect and protect the author’s intellectual property rights and prevent others from misappropriating figures without the author’s authorization or abusing figures without indicating the source, we will indicate the author’s copyright for figures originally generated by the author, and if the author has used a figure published elsewhere or that is copyrighted, the author needs to be authorized by the previous publisher or the copyright holder and/or indicate the reference source and copyrights. Please check and confirm whether the figures are original (i.e. generated de novo by the author(s) for this paper). If the picture is ‘original’, the author needs to add the following copyright information to the bottom right-hand side of the picture in PowerPoint (PPT): Copyright ©The Author(s) 2022.*

Thank you, we have uploaded a PowerPoint file with all figures of our manuscript.

*Authors are required to provide standard three-line tables, that is, only the top line, bottom line, and column line are displayed, while other table lines are hidden. The contents of each cell in the table should conform to the editing specifications, and the lines of each row or column of the table should be aligned. Do not use carriage returns or spaces to replace lines or vertical lines and do not segment cell content.*

Thank you, we have changed the tables in our manuscript to the standard three-line format.