Peer Review File

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Review Comments

Comment 1: Lines 87-88: Does this represent the entirety of the author's inclusion criteria - "PF recon with megaprosthesis or allograft prosthesis"? The subsequent paragraph beginning on line 99 describe study exclusion - based on what criteria?

Reply 1: We changed "included" with "considered" as follow: "PF recon with megaprosthesis or allograft prosthesis were considered". This sentence does not represent entirely the description of the inclusion criteria. The whole inclusion criteria are based on the above mentioned sentence, as well as on the research question reported in between Lines 88-97, and on the final sentence reported on Line can be found on line 97-98 ("Articles examining proximal femoral reconstruction with megaprosthesis or allograft prosthesis, in English, French or German language were included."). Therefore, we better specify the inclusion and exclusion criteria also adding a dedicated sentences within the manuscript.

Change in the text 1: Lines 97-101 are modified as follow: "Articles examining proximal femoral reconstruction with megaprosthesis or allograft prosthesis, in English, French or German language were included.

Studies concerning cadaver and oncologic patients, and studies without full-text availability, as well as studies reporting abductor apparatus reconstruction techniques in patients undergoing revision THA with the use of revision stems instead of megaprosthesis or allograft prosthesis were excluded".

Comment 2: Line 102-103: "references no fulfilling the criteria" - what criteria? The authors failed to provide this.

Reply 2: Line 102-103: Inclusion and exclusion criteria. As discussed above, the inclusion and exclusion criteria were reported in between Lines 97-101.

<u>Change in the text 2</u>: Sentence on Line 101-103 is now modified as follow: "references no fulfilling the inclusion and exclusion criteria".

For the same purpose sentence on Lines 103-105 is also modified as follow ". The full text of the included study was then analyzed and studies not satisfying the inclusion

and exclusion criteria were excluded".

Comment 3: Line 108: PRISMA guideline reference belongs in the initial methods paragraph, describing the database search and criteria for inclusion and exclusion, again, which were not provided.

Reply 3: Based on the fact that this is a narrative review, the inclusion criteria other than "Articles examining proximal femoral reconstruction with megaprosthesis or allograft prosthesis, in English, French or German language were included" were reported in the research question built specifically for the purpose of the review. Lines 87-98.

Change in the text 3: None

Comment 4: Line 121: The authors can provide the cumulative data for the studies - N, mean age, indications, etc

Reply 4: Authors, year of publication, indications, number of patients for each indication, and a brief detailed description of the surgical techniques as reported by the authors of the references are shown in Table 1 for immediacy and ease of interpretation means. Lines 121-123: "In Table 1 are reported the references included in the study.". Unfortunately, all the references reported the aggregated data of the included populations of patients that both fulfilled the inclusion and exclusion criteria and those that did not fulfilled the criteria of the current study. For this reason, it was not possible to extract any other detailed data of the cases other than we have already added in the Table 1.

<u>Change in the text 4</u>: Sentence on Line 121-123 is modified: "In Table 1 are provided the references included in the study reporting indications, included population, and surgical techniques for each reference"

Comment 5: Lines 124-140: Did all studies provide identical detail for these 4 techniques of reattachment or were there variations? If so, these details need to be reported.

Reply 5: A brief detailed description of the surgical techniques as reported by the authors of the references are shown in Table 1 for immediacy and ease of interpretation

means. Lines 121-123: "In Table 1 are reported the references included in the study reporting indications, included population, and surgical techniques for each reference". <u>Change in the text 5</u>: Sentence on Line 121-124 is modified: "In Table 1 are provided the references included in the study reporting indications, included population, and surgical techniques for each reference"

Comment 6: Lines 142-144: Here the authors are generally describing their inclusion/exclusion criteria. This needs to be expounded on in the methods section.

Reply 6: As mentioned in the above responses to reviewers, we better specify the inclusion and exclusion criteria also adding a dedicated sentence within the manuscript. <u>Change in the text 6:</u> See Replay 1. Lines 97-101 are modified as follow: "Articles examining proximal femoral reconstruction with megaprosthesis or allograft prosthesis, in English, French or German language were included.

Studies concerning cadaver and oncologic patients, and studies without full-text availability, as well as studies reporting abductor apparatus reconstruction techniques in patients undergoing revision THA with the use of revision stems instead of megaprosthesis or allograft prosthesis were excluded".

Comment 7: Line 143: "elegant" is not necessary

Replay 7: Line 143: "elegant" was removed.

<u>Change in the test 7</u>: New sentence on Line 143 as following: "describe a surgical technique"

Comment 8: Line 181: We understand this is a narrative review of reported techniques. But outcome reporting for each technique would help surgeons determine which technique may be the optimal choice. Often, heterogeneity of reporting prevents aggregate analysis. However, understanding the clinical performance for each technique has value, as previously stated.

Reply 8: Unfortunately, all the references reported the aggregated outcomes of the included populations of patients that both fulfilled the inclusion and exclusion criteria and those that did not fulfilled the criteria of the current study. For this reason, it was not possible to distinguish the outcomes of the cases that were included from those that weren't included in the current study within each reported reference. As stated on Line

106-108: "All the authors were contacted to obtain missing data concerning the articles they produced, but no answer was received back.". Therefore, we understand and agree with your comment but, even though it could have been precious for the potential readers, we could not state any better clinical relevance of a technique above the other. <u>Change in the text 8:</u> None

Comment 9: Lines 189-192: It is widely known that more rigorous research is needed for nearly every topic being reported. As the authors mentioned, these cases are rare, hindering "systematic synthesis" of the data. This paragraph does not add value.

Reply 9: Lines 189-192. Although it is widely known that more rigorous research is needed for nearly every topic being reported as stated by the reviewers, authors still tend not to perform rigorous research and not to produce new evidence with rigorous and standardized methods, so that it is not infrequent to read such statements throughout the literature as in the current study. Therefore, we still believe that until more rigorous research and new evidence with rigorous and standardized methods are produced, it is appropriate and understandable to recall and encourage for accurate epistemology.

No quantitative nor qualitative synthesis of the current topic has ever been proposed until now, and this study has baseline limitations due to the lack of data and to the presence of poor standardize evidence in the literature included.

For this reason, we would leave this statement in the manuscript because we feel that it is coherent in the context this study tries to emerge from.

Change in the text 9: None

Comment 10: Conclusion: This isn't a conclusion. What did your research add to the current understanding of abd reattachment? Which are used most frequently? Without aggregate findings, this review does not sufficiently contribute to the current literature. Reply 10: Conclusion: The aim of this study was to present the surgical techniques described in the current literature of the abductor mechanism reattachment in proximal femur replacement with megaprosthesis for non oncological reasons. To the author's knowledge, no review dealing with such topic has ever been reported before. Unfortunately, as stated above, due to the lack of aggregate findings we were not able to conclude whether some reconstructions are better than others.

Moreover, as stated on Lines 115-117, no statistics were possible to perform due to an insufficient number of studies concerning the argument, the lack of data about clinical or radiological outcomes and the poor current standardize evidence, so that no quantitative conclusion can be synthesized.

<u>Change in the text 10:</u> As advised, the following statement is added to the Conclusion section on Lines 197-198: "To the author's knowledge, no review dealing with such topic has ever been reported before."