Reviewer’s report

Title: Reconstruction with a Novel Combined Hemipelvic Endoprosthesis after Resection of Periacetabular Tumors Involving the Sacroiliac Joint: A Report of 25 Consecutive Cases

Version: 1 Date: 30 Apr 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?
No - there are minor issues

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
No - there are minor issues

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?
No - there are minor issues

STATISTICS - Is the use of statistics in the manuscript appropriate?
Not sure - I am not able to assess the statistics in this study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
No - there are minor issues

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?
Probably - with minor revisions

PEER REVIEWER COMMENTS:

GENERAL COMMENTS: Overall Impression: Good study overall with what appears to be honest reporting of outcomes and complications for a poor prognosis condition with an innovative endoprosthesis.

What the Authors have done well: They have reported outcomes in standard fashion, complications in standard fashion, discussed their outcomes realistically and even shown early data that may contradict a
prior biomechanical study.

In what ways does it not meet best practice: I think that the care provided likely does meet best practice, but the reporting of the operative technique and data needs to be more clear. DVT management needs to be more clearly stated, the unexpectedly low prosthesis survival rate needs to be better explained (pg 11 ln 53-56 and pg 12 ln 19-24), time in the SICU should be reported as a range, a reference for what is considered an acceptable functional result by MSTS cutoff should be provided instead of just stated that functional results are acceptable (pg 10 ln 29-30). I think the paper overall would be significantly improved by a discussion about the difference between Enneking type I/II, I/II/III, and I/II/IV resections to give the reader some context as to why outcomes may be overall worse among this studies patients but still completely acceptable for the severity of disease involvement and complexity of resection/reconstruction for this group.

REQUESTED REVISIONS:
Objective: Acceptable, but should just be stated in a complete sentence instead of a sentence fragment.
Design: If this is the full extent of data they can collect, then I would say it is acceptable. However, this is retrospective data from consecutive cases. If they were able to pull data from the previous 25 consecutive cases with the same Enneking type I/II/IV resections for comparison prior to the use of this endoprosthesis, that would make the paper much stronger.
Execution: Minor issues only with reporting of data and protocols previously explained in the narrative above. The paper overall reads well but needs some proof reading. I would also consider rewriting Pg 5 ln 56-69, Pg 6 line 1-2 ("sequential compression devices to the lower legs were applied...") or something like that, and give a STRICT DVT prophylaxis plan, Pg 6 line 17 should say "the[n] yearly" instead of "the yearly", time in SICU defined, etc.
Interpretation: I have difficulty following the authors interpretations. They state that the implant survival rate SHOULD BE HIGHER (Pg 11 ln 53-56) and then say it is acceptable under the conclusions (pg 12 ln 19-24) without any further explanation of the difference between these two statements or what constitutes an acceptable performance without standards given for MSTS scores or complications or survival.

ADDITIONAL REQUESTS/SUGGESTIONS:
I think adding in a discussion of the different types of Enneking resections and the implication for survival and function as well as what should be considered acceptable endoprosthesis survival and function using MSTS, by resection type, would make the paper easier to understand and more clearly show the performance of the endoprosthesis.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.
No
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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