Author’s response to reviews

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

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Author’s response to reviews:

Dear Editor Anne Menard,

Thank you very much for reviewing our manuscript entitled “Reconstruction with a Novel Combined Hemipelvic Endoprosthesis after Resection of Periacetabular Tumors Involving the Sacroiliac Joint: A Report of 25 Consecutive Cases” and considering it for possible publication in BMC Cancer. We have made some modifications to the manuscript according to the comments of yours and the reviewers’, which were highlighted in the text and listed as followed.

Editor Comments:
1. Please include the ethics approval reference number in the Ethics approval and consent to participate section, if applicable.
I’m sorry to say that there was no reference number for ethics approval because this study was a retrospective analysis of existing clinical data of a standard treatment, it only needed simplified authorization from the ethic committee for collecting human data which was attached as a figure in Chinese.
2. Please clarify in the Availability of data and materials section where or from whom the data is available from.
We have made modification to this clarification in the section.

3. Please remove the patient's personal information from Figure 2B.
It has been removed.

Reviewers’ Comments:
Abhijeet Salunke (Reviewer 1): Dear Author the study is acceptable for publication, it adds to the current knowledge of Hemipelvectomy.
Thank you very much for your positive comments.

Pietro Ruggieri (Reviewer 2):
* "2) metastatic diseases which were deemed treatable by the attending physician". It is better to clarify, as the Authors rightly reported in the discussion that this procedure is recommended for patients with solitary metastasis or well-controlled tumor.
  Modifications have been made according to your advice.
* "3) an open biopsy resulted in contamination by tumor cells;": what this means? It is not clear.
  We have changed the description of surgical contraindications according to your comments.
* "Patients with primary sarcomas received 2 cycles of chemotherapy preoperatively, and 4-6 cycles postoperatively.": The series included also chondrosarcoma, the Authors means that also for this histology do the same chemotherapy? They have to clarify that chemotherapy depend of histology.
  Detailed information regarding chemotherapy has been added.
* "For metastases, marginal and intralesional resections were both considered acceptable.".: if it is a solitary metastasis wide margins as in primary tumor cold be achieved with the intent to free the patients from the disease.
  Even though the metastasis was solitary, it was very difficult to achieve a wide surgical margin regarding wide extension of the tumor and special anatomical structures of the pelvis. It is true, as you mentioned, wide margin is always the goal, but sometimes wide margin makes the surgery dangerous or even impossible. Moreover, none of these metastatic malignancies could be cured by surgery alone, there were evidences showing an acceptable outcome of patients with extensive pelvic metastasis underwent marginal or even intralesional surgeries who received effective adjuvant treatment at the same time. Based on other reports and our clinical experiences, we thought "For metastases, marginal and intralesional resections were both considered acceptable.", but we always pursue wide margins in practice.
* "Patients were kept at bed rest for approximately 8 weeks": why they have to bed rest for 8 weeks? They can walk with cast in ambuction, with no movement of the hip and no weight bearing as soon as the can.
  Patients were kept at bed rest for 8 weeks to allow scar tissue formation which was supposed to reinforce the prosthesis and muscle attachment after extensive resection of ligament, tendon and capsule. Actually, the patients were allowed to early mobilization and rehabilitation in bed. Thank you for your opinion and we will try it in the future.
Results:
* In all the paper are not clear the margins and how they are related to local recurrence. The Authors have to clarify how many local recurrences are related to marginal or intralesional margins.

The relationship between surgical margin and recurrence rate of musculoskeletal sarcoma has become a common view after so many evidences, so in our manuscript, we were not going to emphasizing this relationship again since we have already reported the same results in previous article. To make a detailed description, there was only one patient of Ewing sarcoma who had recurrence after wide resection, the other 7 patients had marginal or intralesional margin, actually 3 marginal and 4 intralesional. Highlighted modifications have been made according to your advice in the Oncological outcomes section.

* "A total of 9 debridement surgeries were performed in addition to the administration intravenous antibiotics. Two patients required prosthesis removal without further reconstruction." How many patients healed? How many had chronic infection? How many had hemipelvectomy for infection?

All the wounds of 7 patients with wound healing disturbance healed after dress change or debridement surgeries. No one had chronic infection. 4 patients had periprosthetic infections, 2 needed to remove the prosthesis with no further reconstruction due to poor infection control after debridement surgeries. Luckily, none of these 4 patients received external hemipelvectomy.

Reviewer 3): PEER REVIEWER ASSESSMENTS:
REQUESTED REVISIONS:
Objective: Acceptable, but should just be stated in a complete sentence instead of a sentence fragment.
We thought the title was acceptable, and if it was requested, we would probably change it into “Clinical Outcome of Pelvic Reconstruction with a Novel Combined Hemipelvic Endoprosthesis after Resection of Periacetabular Tumors Involving the Sacroiliac Joint”

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.
Primary bone sarcomas were indeed rare diseases, and pelvic sarcomas extended to Enneking type I/II/IV were even rarer, our center is the biggest center for musculoskeletal tumor in south China, and these 25 patients were all of it.

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.

We have rewritten these sentences and added DVT prophylaxis criteria as well as days and range of ICU stay.

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.
I am sorry for the confusion. In survival analysis, revision surgeries (6 cases) caused by any reason were considered as an event, showing an overall 3-year prosthesis survival rate of 63.2%, of course
revisions caused by deep infection (2 cases) were included. However, in this section, we want to focus on revision caused by mechanical failure, so 2 cases of infection should be excluded, and based on these, we said “the implant survival rate SHOULD BE HIGHER (excluding 2 revisions caused by infection)”

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.
We have compared function outcome as well as complications of the current study to Enneking type I/II or I/II/III resections already. We have added detailed comparison according to your advice.

Thank you for your efficient work and valuable advices, we have made improvements to the manuscript as we could, We are looking forward to hear from you, and thank you again for considering our work for possible publication in BMC Cancer.

Sincerely Yours,

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