Reviewer’s report

Title: A three-dimensional printed porous implant combined with bone grafting following curettage of a subchondral giant cell tumour of the proximal tibia: A case report

Version: 1 Date: 16 Jan 2019

Reviewer: Zengwu Shao

Reviewer’s report:

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Thank you for inviting me to review this very interesting case report. Currently, for grade I or II GCTs of bone, the treatment after the curettage is still controversial, especially remaining subchondral bone is very less. In this case, the authors might provide a very promising choice for the patients with grade I or II GCTs of bone.

These are my comments:

1. "history": line 92. biopsy should be performed after the imagings assessment, why this description?

2. "Implant design and fabrication": one question, to increase the mechanical strength, can the strut be solid and have a surrounding 3D-printed structure similar with trabecular bone? Which may be good for bone ingrowth. Rather than simulating the cortex.

3. To exhibit the subchondral bone, articular surface and surrounding soft tissue, the authors should provide preoperative CT images.

4. Line 142. They described "the full weight-bearing was gradually performed" how long?

5. Line 149. the pain should be the rest pain? The patient had a OA history on the X-ray evaluation

6. Line 184. they should provide the more related references, no the experimental study. in the study, several grafts were compared, not included the cement. they should provide the difference between the cement and grafts.

7. Compared with the bone grafts, the advantages using the cement packing? Mechanical strength? Better observed tumor recurrence?
8. Line 242. the description? In this study, only one case. Why they?

9. The copy of "Institutional Review Board approval" should be provided.

Moreover, English need to be improved.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**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.

Not relevant to this manuscript

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

Needs some language corrections before being published

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