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: 17 Dec 2018

Reviewer: Xiuchun Yu

Reviewer’s report:

I wish to thank the authors for their manuscript which proposes that an three-dimensional printed porous implant combined with bone grafting can be an alternative treatment option for a subchondral giant cell tumor of the proximal tibia. This case report mainly focused on the subchondral bone protection in the treatment of Campanacci Grade II GCT, which was crucial to reduce the risk of postoperative knee joint collapse. The case is thoroughly described, comprehensively analyzed and followed for more than 2 years. The background was well organized with presenting other strategies including cement packing, bone grafting, and a combination of cement packing and bone grafting. Furthermore, the benefits of porous implant combined with bone grafting to fill the tumorous cavity was also well presented in the background and discussion sections. The design of porous implant with strut and bearing plate was creative and acceptable. We believe this design of implant could effectively promote bone ingrowth and support the tibial plateau to prevent degenerative changes of knee. Thus, this alternative reconstruction approach with 3D-printed porous implant could be an acceptable option for the treatment GCT of proximal tibia with subchondral area affection. However, considering short follow-up period and insufficient case presentation, the long-term efficacy should be verified in the next further studies. The limitations are well recognized especially for the short period of follow-up. However, some language issues should be checked and solved.

Specific comments:

1.) Abstract (Line 31): „with a three-dimensional (3D)-printed porous implant combined…” please add the missing „with”

2.) The authors use two different descriptions for bone grafting, „bone graft“ (e.g. lines 28, 31, 43, 67, 75) and „bone grafting“. For the reviewers' best knowledge, only the bone grafting is usual. Please clarify and correct.

3.) Conclusion (Line 253): change GCTs into GCT

4.) In the list of references, the authors are inconsistent with respect to paper titles, upper case versus lower case.

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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