

PEER-REVIEW REPORT

Name of journal: World Journal of Clinical Cases

Manuscript NO: 61118

Title: Three-dimensional printed talar prosthesis with biological function for giant cell tumor of the talus: A case report and review of literature

Reviewer's code: 05489618

Position: Peer Reviewer

Academic degree: MD

Professional title: Doctor

Reviewer's Country/Territory: Malaysia

Author's Country/Territory: China

Manuscript submission date: 2020-11-30

Reviewer chosen by: Xi-Fang Chen (Quit in 2021)

Reviewer accepted review: 2021-01-04 06:35

Reviewer performed review: 2021-01-18 13:36

Review time: 14 Days and 7 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input checked="" type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Re-review	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SPECIFIC COMMENTS TO AUTHORS

The manuscript deals with case report of giant cell tumor treated by 3D printed talar prosthesis. The authors used titanium, cobalt-chromium-molybdenum, and hydroxyapatite (HAp) as printing materials for fabrication of talar prosthesis. The study is scientifically sound and well conducted. The results are interesting and the discussion appropriate. However, in my opinion, the following points should be considered before publication: (a) The quality of the text varies from section to section and the manuscript needs minor edition (especially section of Introduction) to correct spelling, grammatical and punctuation errors, tense and conjugations. (b) Few missing citations were detected throughout this manuscript. For example: line 25-26, 33-34, 39-41, 48 (few related studies) (c) Introduction line 40-41, authors stated that "Fusion and other surgical methods seem to be difficult to deal with too large talar tumors", further explanation on why fusion and other surgical methods is not appropriate to treat large talar tumors should be highlighted by authors for the benefit of the readers. (d) Line 84, authors stated that "hydroxyapatite coating and nano-treatment were used to promote bone growth", the statement is unclear. What is the thickness of HAp coating layer? And what kind of nano-treatment was conducted? (e) The methodology of 3D printing process is unclear. For example, types of 3D printer, printing speed, extrusion temperature, raster layer and layer thickness. (f) Line 183 - 191, authors make a good discussion on how the selected materials improve the clinical success, however it can be improved/strengthen if authors discuss also from the perspective of "osseointegration" since titanium was used as main material. (g) Authors used Ti-6Al-4V as lower surface materials of artificial tibia and claimed that it is able to promote bone growth and increase stability. Although Ti-6Al-4V has high reputation for biocompatibility and corrosion resistance, it can release ions such as aluminium (Al) and vanadium (V) which



**Baishideng
Publishing
Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgooffice@wjgnet.com
<https://www.wjgnet.com>

are toxic and can cause long term health problems such as Alzheimers disease, neuropathy, and ostemomalacia. These problems affect the long-term use of Ti-6Al-4V for implant applications. Authors should clarify why Ti-6Al-4V was used instead of commercially pure titanium although Ti-6Al-4V has long term side effects. Authors should also tell the readers the possible long term effects of Ti-6Al-4V as implant in this manuscript. Consequently it is recommended that the manuscript is returned to the authors for minor revision before being accepted in World Journal of Clinical Cases.

RE-REVIEW REPORT OF REVISED MANUSCRIPT

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Reviewer's Country/Territory: Malaysia

Author's Country/Territory: China

Manuscript submission date: 2020-11-30

Reviewer chosen by: Le Zhang

Reviewer accepted review: 2021-02-02 09:48

Reviewer performed review: 2021-02-06 09:19

Review time: 3 Days and 23 Hours

Scientific quality	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
Language quality	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
Conclusion	<input type="checkbox"/> Accept (High priority) <input checked="" type="checkbox"/> Accept (General priority) <input type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
Peer-reviewer statements	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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Group**

7041 Koll Center Parkway, Suite
160, Pleasanton, CA 94566, USA
Telephone: +1-925-399-1568
E-mail: bpgoffice@wjgnet.com
https://www.wjgnet.com

Authors had addressed all the comments. Hence, it is recommended for publication