Reviewer's report

Title: Medical-grade polycaprolactone scaffolds made by melt electrospinning writing for oral bone regeneration – a pilot study in vitro

Version: 0 Date: 10 Sep 2018

Reviewer: Masako Fujioka-Kobayashi

Reviewer's report:

The authors investigated the different size of box-shaped PCL membranes for cell behaviour on them. This scaffolds show the relatively good cytocompatibility and the comparison of the different pore size of scaffolds is interesting and worth being published. However, there are some points which should be reconsidered.

1. The authors state GBR and GTR are used in the field of maxillofacial surgery. However, GBR technique is rather common in oral surgery than in maxillofacial surgery. Probably it is better to change to "Oral and maxillofacial Surgery" instead of "Maxillofacial Surgery" throughout the manuscript.

2. Line 59; "Background: The vast spectrum of indications for the use of membranes and scaffolds in the field of maxillofacial surgery extends from guided bone regeneration (GBR) to the coverage of acute or chronic wounds."

   - If the authors focus on GBR for their new box-shaped scaffolds as the title, there is no need to mention the membranes as well as the coverage of acute or chronic wounds of soft tissue. I imagine the author used MG63, which means the target is the undoubtedly GBR.

3. Line 75; "Conclusions: These well-defined 3D scaffolds consisting of medical-grade materials optimized for cell attachment and cell growth hold the key to a promising new approach in GBR and may enhance wound healing in certain maxillofacial issues.

   - The authors used only MG63 osteoblast-like cells for cell behaviour on the scaffolds. Is there any evidence from the results to "enhance wound healing in certain maxillofacial issues" other than GBR?

4. Line 85; The authors describes the possibility to use the new membrane for "MRONJ" cases. However, as long as I understand, for the treatment of bone defect because of MRONJ, the use of the materials are controversial. Please consider it.
5. Line 145; Are there any reasons to choose the pore sizes?

6. Figure 3-7; The bar graphs were shown. What do the values indicate? The average, or median? How many samples were used? How many times (duplicate or triplicate) were the experiments done?

7. Was the statistical analysis done for the quantitative experiments? Are there any difference between different box size groups? If the sample size is not enough to test statistical analysis, please show all result values in figures.

8. Figure 9c, d, and e look completely the same images.

**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.

Yes

**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

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