Reviewer’s report

Title: Impact of transparent tray-based application of bioactive glasses desensitizer on the permeability of enamel and dentin to hydrogen peroxide: an in vitro study

Version: 0 Date: 01 Feb 2019

Reviewer: Bledar Lilaj

Reviewer's report:

This in vitro study evaluates the effect of transparent tray-based application of bioactive glasses (BGs) desensitizer on the permeability of enamel and dentin to hydrogen peroxide (H2O2). Regarding this study I have following comments/questions:

* Overall: The English language used in this manuscript needs improvement. Please contact a native speaker for proofreading.* Title: Please add "in vitro" to the title, so it is obvious to the readers.* M&M: Did you prepare a transparent tray for all specimens, or only for group D and F? Regarding the influence of the light cured composite resin on the covered surface, would you expect a(n) (additional) sealing effect? Occluding dentinal tubules with the use of bioactive glass before bleaching procedure, which was performed in this study, may result in failing to achieve the desired whitening effect, which is the reason for performing tooth bleaching. Please add additional tooth color measurement tests (e.g. with artificial tooth staining in advance), before and after bleaching, to investigate if the use of bioactive glass also compromises the following bleaching efficacy.* Resultso: Please create a boxplot in order to illustrate the results. o What amount of H2O2 reaching the pulp is of clinical relevance for causing tooth sensitivity during or after bleaching? Please discuss.

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.

Unable to assess

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.
I recommend additional statistical review

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

Needs some language corrections before being published

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.