Reviewer’s report

Title: Clinical and radiographic evaluation of Biodentine versus Calcium hydroxide in primary teeth pulpotomies: a retrospective study

Version: 1 Date: 31 Mar 2017

Reviewer: Camila Sfreddo

Reviewer's report:

Substantial comments:

Comment 1: This paper shows that biodentine exhibit a higher clinical and radiographic success rate. Although an interesting and important research question, I am not sure about the relevance and implication of this study. The results have shown the superiority of biodentin, however, the clinic relevance need to be discussed. Is this material cost effective? In addition, the authors need to be caution should in which cases pulpotomy is indicated. For example, the partial removal of carious dentin is the technique indicated in extensive caries lesions currently. The paper needs to be modified in these terms, and the interpretation of the results discussed more fully.

Comment 2: The outcome of this paper is the therapeutic success. How was this variable constructed and how were the analyzes done? What are the sociodemographic characteristics of the sample? There is some degree problematic in the statistical analysis and presentation of tables. My recommendation is that the authors revisit their analyses to make even better use of their valuable data, and improve data presentation.

Comment 3: The authors concerned about technique standardization and blinding during the evaluations. Was this study planned before procedures were performed? If yes, I consider the absence of randomization process to materials and teeth a serious deficiency. Additionally, there is a lot of missing methodological information. Where and when was the study conducted? How was the calibration process of radiographic evaluations performed? The paper needs to be improved in these terms.

Minor comments:

Comment 4: Introduction: What other aspects are important for maintenance of deciduous teeth, besides the importance in maintaining the space for permanent dentition?

What is the evidence to indicate the use of pulpotomy in cases of agenesis? What is the plausibility of this indication?
Comment 5: Introduction: Currently, the technique of partial dentin removal has been more used in cases of extensive caries lesions because it is effectiveness and less invasive. In which cases would pulpotomy still apply nowadays? I suggest the introduction modification in these terms.

Comment 6: Introduction: The studies comparing different materials need to be better presented. It is important to highlight the type of material used and the main results.

Comment 7: Introduction, page 5, line 14 to 17: I suggest remove the sentence: "...that is identically to MTA, a calcium silicate cement…"

Comment 8: Results: The results of the same table should be presented in the same paragraph. There is repeated information of the table in the Results section. The authors need to be careful about double publishing.

Comment 9: Discussion: The paper needs to be discussed more deeply. What is the relevance of the findings? What are the main limitations? What is the recommendation of the study? The main conclusion of the study was not clear to me.

Comment 10: Tables: The tables need to be more informative for the reader. Basic information such as the sociodemographic characteristics of the sample, which composes the success rate and statistical test should be added. Tables 1, 2 and 3 could be joined into a single table.

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

No

**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.

No

**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 am able to assess the statistics
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Please indicate the quality of language in the manuscript:

Acceptable

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