Reviewer's report

Title: Influence of iRoot SP and mineral trioxide aggregate on the activation and polarization of macrophages induced by lipopolysaccharide

Version: 0 Date: 02 Jul 2017

Reviewer: George Candeiro

Reviewer's report:

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Abstract

Adequate.

Introduction

Line 12. The main application of MTA is to fill root canal perforations and root-end preparations. Please put this information. MTA is not used as root canal filling material. Currently, some endodontic sealers present MTA as a constituent. Please correct this information.

I suggest that you insert the physic-chemical properties of bioceramic sealers and that properties may justify biological properties.

Please read this articles:


The last paragraph of Introduction topic should be the general aim and the null hypothesis. Please insert this information.

Methods

What are the manufacturers of MTA and iRoot SP used in the research?

Why did you compare two materials used to different treatments? The best comparison should be between MTA and a Bioceramic Root Repair Material or between iRoot SP and an endodontic sealer MTA based.

Results

It is well done.

The figures should be in better definition. Please improve it.

Discussion

Please, verify the English translation in all text.

In line 97, you wrote that "Root filling materials were widely used for the treatment of periapical disease and their influence on the activation and polarization of the macrophages could determine the mechanism of pathogenesis process in the periapical disease."

The concept of root canal filling material is strongly wrong. These materials are used during endodontic therapy. Endodontic therapy is applied to treat Apical Periodontitis (A.P.). Please change this information.

You claim that endodontic sealers may influence the pathogenesis process of A.P. What references support this information? The pathogenesis of A.P. is strongly based in others bacterial and immunologic factors. Please check this information. The endodontic sealer is fundamental to periapical repair???

In line 109, you wrote that "...it could still be speculated that iRoot SP and MTA could promote the wound healing of the periapical disease."

This conclusion is very wrong and dangerous. Currently, I can't imagine that these materials alone may promote the apical repair. So, the instrumentation is not important? The presence of biofilm has no influence during the process? Don't forget that an in vitro research is enabling to
made observations like you wrote. Others mechanisms are involved in this process. Please, check this information and remove any speculative information without evidence.

In line 120, you wrote "The mechanism of iRoot SP potential to enhance the release of the pro-inflammatory cytokines is yet an enigma."

I suggest that you should consider others articles that evaluated physic-chemical properties of bioceramic endodontic sealers. This information may help you to explain some doubt. Bioactivity by bioceramic endodontic sealers should be claimed.

Don't forget that your research was made under only one condition and speculative conclusions may affect the quality of your work.

Please, inform the limitations of the present study and the further works.

Conclusions

This topic should be made according to objectives. Please, remove any personal recommendation.

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.
No

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