Author’s response to reviews


Title: THE PUSH OUT BOND STRENGTH OF POLYDIMETHYLSILOXANE ENDODONTIC SEALERS TO DENTIN

Authors:

Kinley Dem (kinleydental@yahoo.com)
Yingfang Wu (kinleyteddy@gmail.com)
Atipatsa Kaminga (atipatsachiwanda@yahoo.co.uk)
Cao xin (1335356963@qq.com)
Dai Zhuo (281901309@qq.com)
Bingyu Zhu (421221074@qq.com)

Version: 1 Date: 14 Dec 2018

Author’s response to reviews:

Dear Editor,

We are pleased with your email asking us to revise our manuscript and respond to some comments and queries before you consider it for further review. The Editors and Reviewer have done a commendable job to improve the clarity of our manuscript. We thank them so much for their time and constructive comments, which we hope have made our revised manuscript clearer than our original manuscript. Accordingly, as suggested, we have made revisions to the original manuscript and have submitted a revised version for consideration for further review.

The changes made to our original manuscript are highlighted in red, for added words, and strikethrough, for deleted words, in the revised version of our manuscript. Please find appended to this letter our specific point-by-point responses to the Reviewer/Editorial comments and queries.

We look forward to the outcome of your further review of our manuscript.
Yours sincerely,
On behalf of the co-authors
Wu yingfang

EDITOR(S)’ DECISION

REQUEST FOR REVISION
OHEA-D-18-00089

THE PUSH OUT BOND STRENGTH OF POLYDIMETHYLSILOXANE ENDODONTIC SEALERS TO DENTIN

Kinley Dem, masters in Conservative Dentistry and Endodontics; Yingfang Wu, M.D in Clinical Medicine; Atipatsa Chiwanda Kaminga, PHD in Epidemiology and Health Statistics; Cao Xin, masters in Conservative Dentistry and Endodontics; Dai Zhuo, masters in Conservative Dentistry and Endodontics; Bingyu Zhu, masters in Conservative Dentistry and Endodontics; BMC Oral Health

Editor Comments:

Please have your manuscript copy-edited by a native English-speaking colleague. If you are not able to improve this aspect, we may not be able to consider your submission further.

Authors’ response: Thank you so much for your careful review to improve the clarity of our manuscript, and your offer to consider our revised manuscript for further review. We have edited the English language carefully.

COMMENTS TO AUTHOR:

Please also clearly outline more clearly how the tooth specimens were obtained.

Author’s response:
We have indicated in the revised version of the manuscript how the tooth specimens were obtained as follows: “All collected teeth were verified with the use of CBCT before extraction to rule out calcified canals, caries, extra canals, open apices, cracks, and restorations. Teeth that didn’t have calcified canals, caries, extra canals, open apices, cracks and restoration were selected.”(Page number 6, line numbers 187-189)

BMC Oral Health operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Author’s response:

Thank you so much we have tried to revise and followed up the reports, actions links as advised by the reviewers.

Reviewer reports:

Cleonice Silveira Teixeira (Reviewer 1): Dear Authors:

The manuscript "The push out bond strength of polydimethylsiloxane endodontic sealers to dentin" aims to assess the push out bond strength of Polydimethylsiloxane sealer (GuttaFlow 2 and GuttaFlow Bioseal by Colte’ne/Whaledent Inc.) to dentin. AH Plus (Dentsply DeTrey, Konstaz, Germany) was used as a reference material for comparison. I think that this study presents an interesting methodology. However, the study has many points that should be improved or clarified. Below, you will find a description of these points:

Main point:

* The manuscript is poorly written and needs to be reviewed by native speakers in the English language. There are many errors regarding grammatical, typo and writing aspects throughout the text.

Author’s response:

We have edited the English language carefully.
Title: Running title is not present.

Author’s response:

We have included the running title which has been specified as follows: Running title- The push out bond strength of AH Plus, GuttaFlow 2 and GuttaFlow Bioseal.

1) Introduction: The authors need to revise and enhance this section.

Author’s response:

We have further enhanced by adding the following points in page number 4 from line number 104 and 112 explaining about the push out bond strength techniques as follows:

“Although bond strength test might not be reliable in terms of representing clinical conditions of the sealers [6], currently this is the best adhesion test available [9]. This test is easy to conduct, interpret and document. There are many techniques to examine this bond strength. These techniques may involve different core materials, as well as various preparation procedures of root dentine [10, 11, 12, 13, 14]. Noteworthy, the conventional tests use single root slice for the push out tests [12-14]. While there are other techniques using precise machine made holes produced in the same dental slice [7, 15, 16], this study involved the latest push-out method with standardized root canal structure artificially created [17].”

We have updated the references accordingly. Please refer to the section of references as follow.


2) Materials and Methods:

With respect to the material and methods, the failures analysis after push-out test was not performed. I suggest to the authors that this analysis be done, because it is important to explain the results.

Author’s response:

Although the failure analysis was needed, as we did not have the equipment’s to conduct this part of the experiment We have tried our best to justify with what was available.

3) Results:

- I suggest that the data of Table 2 is included in the results section. Or, the Tables 2 and 3 would be mixed in a single Table.

Author’s response:

The data of table number 2 has been included in the results section in page number 10 and line number 291 and 292. The description has been given as follow:
“The table 2 describes that AH Plus had the highest mean, median and standard deviation values, while GF 2 had the lowest. In particular, the values of GFB were higher than GF2 but lower than AH Plus.”

4) Discussion:

This section needs to be improved.

Author’s response:

We have further enhanced by adding the following points:

“Yes, there are disadvantages of this method, which include the creation of the standardized holes with burs, which may reduce the variables otherwise observed in clinical cases of root canal anatomy. Therefore, to control this type of failure, the artificial canals were only filled with root canal sealers. This leads to the stress concentration on the sealer, but not on other materials, like gutta percha, as the second technique could give inaccurate readings. Although the use of a sealer with gutta percha would replicate more of a clinical situation, this procedure of using only a sealer would show the proper bond strength between root canal sealers and dentine.”

(Page number 12-13, line number 341-363) We have updated the citations accordingly. Please refer to the section of discussion of the revised manuscript for more details.


6) References:

The references are current, but not updated. There are some references that need correction (see reference number 4, for example).
Author’s response:

The references have been updated and the following reference has been revised as follows: “Reference number 4. Collares FM, Portella FF, Rodrigues SB, Celeste RK, Leitune VC, Samuel SM: The influence of methodological variables on the push-out resistance to dislodgement of root filling materials: a meta-regression analysis. Int Endod J 2015.


In conclusion, a major revision is needed before this manuscript merits consideration for publication. Good luck with your efforts!

Author’s response:

Thank you for your suggestions. We have edited the manuscript carefully and revised the manuscript within our limitations.

Mehmet Ozgur Uyanik (Reviewer 2): In the part "Background", your third sentence is about necessity of gutta percha for the proper seal. Then why did you prepare your samples' obturations without gutta percha. Furthermore there is no recommendation for using AH plus alone in the literature. Using AH plus in an obturation without gutta percha cannot make it control group.

Author’s response:

Our study involves a recent method employed by scelza et al. and silva et al. This bond strength test examines the bond strength of dentine and sealer. Therefore to maintain proper control of the failure mode in our test, the root canals were filled with only sealers. This type of test applied the compressive load directly on the sealer and not on a resistant material, which could lead to incorrect analysis.

The references are available below.


Line 84; the researches cited (ref 5,6,7) were not investigated the reliability of the methology. These articles have just used the push-out method but not compared the methods of strength or adhesion tests.

Author’s response:

The references have been corrected and replaced with a proper reference supporting our paper as follow:

“Uregan et al. indicated that push out bond strength showed better assessment of the bond strength than conventional shear test.”( Page number 4, line number 102-103)


Line 38; check the company name of material.

Author’s response:

We have checked and revised the company name as follows: “The GuttaFlow 2 and GuttaFlow Bioseal by Colte’ne/Whaledent, Altstätten, Switzerland) has been updated.”

(Page number 2, line number 28)

Discuss the choice of plunger tip.

Author’s response:

We have discussed the choice of plunger tip as follows:

“With regard to the pin size, according to Chen et al. he proposed that the size of the plunger tip should be 0.85 times smaller than the size of the filling material. Further, it was proposed that the position of the plunger tip be closer to the diameter of the sealer. This allowed the plunger tip to
concentrate the stress closer to the sealer dentine interface.” (Page number 12, line number 33--334)