Author’s response to reviews

Title: The influence of bracket type on the external apical root resorption in class I extraction patients - a retrospective study

Authors:

Fang Qin (dentsitqingfang@163.com)
Yu Zhou (156089794@qq.com)

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Author’s response to reviews:

Dear editor,

In this version, I have addressed the issues raised by the reviewers and editor. Enclosed please find the responses to the referees.

We deeply appreciate your consideration of our manuscript, and we are looking forward to receiving comments from the reviewers. We sincerely hope this manuscript will be finally acceptable to be published on BMC ORAL HEALTH. Thank you very much for all your help. If you have any queries, please don’t hesitate to contact me at the address below.

Thank you and best regards.

Yours sincerely,

Zhou Yu

Responses to the referees

I am very grateful to your comments for the manuscript. According with your advice, we amended the relevant part in manuscript. All of your questions were answered below.

Editor comment

1. Please have your manuscript copy-edit by a native English-speaking colleague. If this is not possible, please consider using a professional copy-editing service. If we do not deem that the standard of English used is adequate, we may not be able to accept your submission for publication. In addition, we notice that comparison software highlights a number of instances
where the phrasing you have used is very similar to published articles. Please ensure that your submission is written in your own words.

Respond: The English have been reviewed by Mc Gerold a native English speaker who come from Canada. He worked as visiting professor in our hospital for many years. Of course, if you still think the English need further improved, I hope you can recommend a good company to help us better improve language. In addition, I have written the manuscript in my own words.

REVIEWER 1 EVALUATION

I recommend the publication after making minor corrections in several points of the text.

1. Abstract

Minor correction in summary introduction:

Background: The relationship between orthodontic treatment-related factors and external apical root resorption (EARR) has never been fully answered. The aim of this study was to investigate whether conventional and passive self-ligating brackets affect the amount and severity of EARR in withdrawal patients

Conclusions: The type of bracket did not influence the occurrence and severity of the external apical root resorption in class I extraction patients.

Respond: Thanks for the referee’s good evaluation and kind suggestion. In this version, we have revised it according to your suggestion.

2. Material and methods

1- Invert the arrangement of figures 1 and 2 in the text.

2 - Insert in the reference session the two citations described in figure 2

3 - The caption of figure 1 is ineligible.

4- Quote the reference of Dahlberg's formula

Respond: Thanks for the referee’s good evaluation and kind suggestion. In this version, we have revised the manuscript according to your suggestions. We have quoted the reference of Dahlberg’s formula and two citations in figure 2. Additionally, we have inverted the arrangement of figures 1 and 2 in the text and revised the caption of figure 1.

3. Results
1- Formatting the captions of all tables

2- Correct the caption from table 7

3- In table 7, what is the meaning of the abbreviations SE and b

4- In table 7, explain the meaning of the overwritten signal in the word multivariate model

Respond: Thanks for the referee’s good evaluation and kind suggestion. In this version, we have revised the manuscript according to your suggestion. We have revised the captions of all tables and corrected the caption of Table 7. The ‘SE’ means Standard error and ‘B’ mean regression coefficient. And we have deleted the overwritten signal in the word multivariate model.

4. Discussion

We all know that patients with tooth extraction are more prone to root resorption than those without tooth extraction (cite references).

Furthermore, we recruited more patients than previous studies (which studies?)

This study only included maxillary incisors because maxillary incisors were most susceptible to root resorption during orthodontic treatment (cite references).

Compared with conventional brackets, it has been hypothesized that fast tooth movement in self-ligating brackets will result in more EARR during the orthodontic treatment (cite references).

Light forces have long been recommended to reduce adverse tissue reactions (root resorption). (cite references).

Some deficiencies still need to draw our attention. First, the panoramic radiographs is not precise than periapical radiographs or CBCT for measuring EARR. (cite references).

However, taking into account that the radiation dose of the periapical radiographs or CBCT is larger, and many studies have confirmed that it is possible to use a panoramic film to initially determine the amount of root absorption (cite references).

Respond: Thanks for the referee’s good evaluation and kind suggestion. Your suggestion is very important. We have added the references according to your suggestions. Thanks again.

5. References

Format the references # 13, 18 and 19
Respond: Thanks for the referee’s good evaluation and kind suggestion. We have formatted the references #13, 18 and 19.

REVIEWER 2 EVALUATION

1. Overall the study is a nice script as far as the objectives are concerned. But there are several spelling mistakes as well as sentence forming errors. Further the introduction can be more detailed and effective.

Respond: Thanks for the referee’s good evaluation and kind suggestion. Your suggestion is very important. The English have been reviewed by Mc Gerold a native English speaker who comes from Canada. He worked as visiting professor in our hospital for many years. And we have revised the introduction part more detailed and effective according to your suggestion.

2. Inclusion and Exclusion criteria is incomplete. Authors have missed Root canal teeth, prosthesis etc. In the exclusion criteria the authors have written "systematic diseases". I think it should be systemic diseases. Further it will be better if the authors elaborate on the systemic diseases. Since there is the effect of duration of the therapy on EARR, what about the patients who are non-compliant and the duration of orthodontic treatment was lingered or prolonged due to frequent breakage of the brackets? Highlight that the cases were not a re-treatment case. Please include this fact in the criteria too.

Respond: Thanks for the referee’s good evaluation. We have refined the inclusion and exclusion criteria according to your suggestion, detail see table 1. And we have excluded the patients who frequent breakage of brackets.

3. Was there any case in which radiograph was not of good quality and hence it was difficult to measure the EARR.

Respond: Thanks for the referee’s good evaluation. All included radiograph were high quality.

4. Since it is a retrospective study, how was the sample size decided and at what significance level.

Respond: Thanks for the referee’s good evaluation. It was estimated that a sample size of 42 subjects would be needed to demonstrate a significant change in root resorption, with an 80% probability power at the 5% level of significance. And we have added this method in material and method part.
5. Details of the measurement method are required in the manuscript. What tool was used for measurement and what was the accuracy of the tool.

Respond: Thanks for the referee’s good evaluation. The incisor root lengths were measured on calibrated panoramic radiographs before and after treatment. And we have added this explain in method part.

6. There is no way that distortion will not happen in the radiography. What was the reliability of the method used. Else there will be false misleading results of the study.

Respond: Thanks for the referee’s good evaluation. Any image distortion between the pre and post-treatment radiographs was calculated using the crown length registrations. This measurement method was established by Linge and has been described by several studies.

7. Was there any formula used to measure EARR ?

Respond: Thanks for the referee’s good evaluation. We have described the detail in Figure 1 and 2.

8. ADDITIONAL REQUESTS/SUGGESTIONS:

Spelling mistakes and sentence forming errors are there.

Respond: Thanks for the referee’s good evaluation. The English have been reviewed by McGerold a native English speaker who come from Canada. He worked as visiting professor in our hospital for many years.