

RE: Manuscript ID: 71401 *Periodontal-orthodontic interdisciplinary management of a “periodontally hopeless” maxillary central incisor with severe mobility: A case report.*

Reviewer #1:

Specific Comments to Authors: 1. The title has been chosen appropriately with the subject. 2. The abstract section has been prepared appropriately. 3. The use of keywords is appropriate. 4. Although the background seems to have been prepared enough for this article, it will be helpful to support it with more up-to-date literature. For example: “Kurem I, Topsakal U, Ozturk T. Evaluation of multidisciplinary treatment relationship between orthodontics and periodontology departments by examining inter-departmental consultation notes. Niger J Clin Pract 2021;24:1234-9.

“ 5. The Method section appears to have been prepared appropriately, but depending on the dental materials used. More information should be given about the stages of orthodontic treatment applied in this section. 6. The discussion section should be revised with support from the current literature. 7. Illustrations and table are presented appropriately. 8. The use of any statistical analysis is not required in the study. 9. While revising the background and discussion sections of the references section, it is inconsistent with the current literature. 10. The editing and presentation quality of the related article is good. However, when the mentioned points are revised, they will contribute more to the readers. 11. The reporting of this article has been well presented as it is based on the CARE Checklist.

Reviewer #2:

Specific Comments to Authors: Prognosis of periodontally hopeless teeth is of great concern for periodontists and dentists. This paper is well written, and shed thoughtful insight into our understanding of occlusal trauma in the progress of periodontitis. This case report has complete records to support that periodontal-orthodontic interdisciplinary treatment can help stability of periodontally hopeless teeth. However, some points need to be addressed before publication. 1. More discussion is still needed to explain the controversy about treating teeth with severe mobility, and

explain how the dentists can differentiate primary and secondary occlusal trauma, since this point is important in individual clinical situation. 2. The authors should explain why they chose Bio-Oss bone particulates, and discuss the function and outcome of bone particulates. 3. Since periodontally accelerated osteogenic orthodontics (PAOO) is reported in literatures, more discussion regarding the difference of PAOO and traditional guided tissue or bone regeneration will definitely facilitate orthodontists to suggest a better periodontal regiment. 4. Clear aligners have been introduced into the orthodontic discipline. The authors may discuss the clinical decision of clear aligners or traditional fixed appliances in patients with advanced periodontitis.

Science editor:

The manuscript reported a case of Periodontal-orthodontic interdisciplinary management of a “periodontally hopeless” maxillary central incisor. The manuscript is well written and can be helpful for the readers to ameliorate the diagnostic and therapeutic approach for this scenario. Nevertheless, there are a number of points that may deserve some revisions. The author's figure legend has no express well and should be explained in detail. Based on the current relevant review, can the author add the advantages and disadvantages of different treatment schemes in the discussion part?

Dear Editors of *WJCC*:

Thank you and reviewers for the thoughtful review of our manuscript. We are encouraged by your consideration of our revised manuscript. We have followed the recommendations and made revisions for our manuscript. All authors have agreed to resubmit the revised version for your consideration.

All the comments made by the reviewers and editors which require my reply and revisions have been addressed point-by-point below:

REVIEWER #1

Specific Comments to Authors: 1. The title has been chosen appropriately with the subject. 2. The abstract section has been prepared appropriately. 3. The use of keywords is appropriate. 4. Although the background seems to have been prepared enough for this article, it will be helpful to support it with more up-to-date literature. For example: “Kurem I, Topsakal U, Ozturk T. Evaluation of multidisciplinary treatment relationship between orthodontics and periodontology departments by examining inter-departmental consultation notes. *Niger J Clin Pract* 2021;24:1234-9.

Response: Thanks for the suggestion. In the introduction section, we have supplemented the latest related literature to enrich the background. (Iwata M, et al. *J Am Dent Assoc.* 2019;150(11):960-971; Aimetti M, et al. *Int J Periodontics Restorative Dent.* 2020;40(1):95-102; Kumar N, et al. *Contemp Clin Dent.* 2018;9(Suppl 2):S377-S381. ; Carvalho CV, et al. *Am J Orthod Dentofacial Orthop.* 2018;153(4):550-557; Graetz C, et al. *J Dent.* 2019;80:49-54; Konermann A, et al. *Clin Oral Investig.* 2017;21(4):1283-1289; Kurem I, et al. *Niger J Clin Pract.* 2021;24(8):1234-1239.)

5. The Method section appears to have been prepared appropriately, but depending on the dental materials used. More information should be given

about the stages of orthodontic treatment applied in this section.

Response: Thanks for the suggestion. We have added related information.

6. The discussion section should be revised with support from the current literature.

Response: Thanks for the advice. In the discussion section, we have cited the latest related literature to enrich my article. (Campiño JI, et al. J Int Acad Periodontol. 2019;21:148-158; Arita Y, et al. J Periodontal Res. 2020;55:464-471; Tsuzuki T, et al. Arch Oral Biol. 2016;66:86-91; Passanezi E, Sant'Ana ACP. Periodontol 2000. 2019;79(1):129-150; Zasčiurinskienė E, et al. Eur J Orthod. 2019;41(6):565-574. Kumar N, et al. Contemp Clin Dent. 2018;9(Suppl 2):S377-S381; Baghdadi D, et al. J Orofac Orthop. 2019;80(4):184-193; Lu H, et al. Medicine (Baltimore). 2018;97(13):e0248.)

7. Illustrations and table are presented appropriately.

8. The use of any statistical analysis is not required in the study.

9. While revising the background and discussion sections of the references section, it is inconsistent with the current literature.”

Response: Thanks for the question. I have read through the full text and all references again and adjust where there may be inappropriate citations to the entire manuscript.

10. The editing and presentation quality of the related article is good. However,

when the mentioned points are revised, they will contribute more to the readers.

Response: We paid attention to these issues in the revised manuscript.

11. The reporting of this article has been well presented as it is based on the CARE Checklist.

REVIEWER #2

Prognosis of periodontally hopeless teeth is of great concern for periodontists and dentists. This paper is well written, and shed thoughtful insight into our understanding of occlusal trauma in the progress of periodontitis. This case report has complete records to support that periodontal-orthodontic interdisciplinary treatment can help stability of periodontally hopeless teeth. However, some points need to be addressed before publication.

Comment #1: “More discussion is still needed to explain the controversy about treating teeth with severe mobility, and explain how the dentists can differentiate primary and secondary occlusal trauma, since this point is important in individual clinical situation.”

Response: Thanks for the thoughtful advice. We have added further information regarding this issue. Despite the consensus on the definition of primary and secondary occlusal trauma, specific criteria of reduced periodontal support that leads to a clinical diagnosis of secondary occlusal trauma have not been identified clearly. Since both periodontal inflammation and occlusal trauma can result in an increase in the tooth mobility, any clinical decision should be made

only after periodontal inflammation is well controlled and occlusal trauma is clearly alleviated.

Comment #2: “The authors should explain why they chose Bio-Oss bone particulates, and discuss the function and outcome of bone particulates.

Response: Thanks for the thoughtful suggestion. Bone regeneration was still a challenge in the horizontal alveolar bone defect. To improve the thin periodontal phenotype and maintain soft tissue stability, we used Bio-Oss bone particulates, which have a slower degradation rate and maintain the three-dimensional gingiva contour in a long term. We have added the information in the discussion.

Comment #3: “Since periodontally accelerated osteogenic orthodontics (PAOO) is reported in literatures, more discussion regarding the difference of PAOO and traditional guided tissue or bone regeneration will definitely facilitate orthodontists to suggest a better periodontal regiment.”

Response: Thanks very much for the suggestion. Traditional guided tissue or bone regeneration is mainly used in the treatment of vertical bone resorption or molar root bifurcation lesions. It promotes periodontal regeneration through bone filling materials and barrier membranes to form new periodontal attachments. Periodontally accelerated osteogenic orthodontics (PAOO) is a clinical procedure that combines selective alveolar corticotomy, particulate

bone grafting and the application of orthodontic forces, majorly conducted in patients with healthy periodontal status³². Regional acceleratory phenomena (RAP) induced by corticotomy promotes alveolar bone remodeling and accelerate tooth movement, while the alveolar augmentation expands bone boundaries and benefits periodontal conditions³³.

Comment #4: “Clear aligners have been introduced into the orthodontic discipline. The authors may discuss the clinical decision of clear aligners or traditional fixed appliances in patients with advanced periodontitis.”

Response: Thanks for the thoughtful suggestion. The clinical decision of fixed appliances or removable clear aligners is important for the prognosis of periodontally hopeless teeth. Despite its convenience of oral hygiene, clear aligners will produce large instantaneous stress on the periodontal tissue during repeated removal and wear. Considering the extreme tooth mobility in this case, mechanic force during wearing aligners may aggravate periodontal status. Therefore, fixed appliance is a better choice for teeth with severe tooth mobility.

Science editor

1. The author's figure legend has no express well and should be explained in detail.

Response: Thanks for the advice. According to your suggestion, we have supplemented the figure legend in detail.

2. Based on the current relevant review, can the author add the advantages and disadvantages of different treatment schemes in the discussion part?

Response: Thanks for the thoughtful suggestion. “Two treatment options were considered. The first was to combine the orthodontic treatment with periodontal therapy. Such treatment could establish a fine and stable occlusion, which was beneficial to the long-term health of the periodontal tissue. The risk was the further periodontal destruction as well as an economical burden of orthodontic treatment. The second option was to place an implant after incisor extraction. Such plan can greatly shorten the time of total treatment. However, insufficient bone mass, lack of soft tissue and poor occlusal condition may pose a great challenge for the long-term survival of the implant. Since tooth mobility may improve after correction of the malocclusion, we finally chose the conservative option to try orthodontic correction. The patient understood and accepted the risks that may occur during orthodontic treatment.”

We deeply appreciate your consideration and improvement of our revised manuscript, and we are looking forward to hearing from you. If you have any queries, please don't hesitate to contact us.

Yours sincerely,

Lang Lei
Nanjing Stomatological Hospital
Medical School of Nanjing University
October 31th, 2021