

Dear Editor and Reviewers,

Thank you for your letter and comments on our manuscript titled: “**Management of palato-radicular groove in a maxillary lateral incisor with periodontal regenerative procedure and prosthodontic treatment: a case report**” (Manuscript NO. 72782). All comments are valuable and very helpful for revising and improving our manuscript, with important guiding significance to our studies.

We have addressed your comments to the best of our abilities and revised the text accordingly. We hope the revised version is suitable for publication in “*World Journal of Clinical Cases*”.

Please don't hesitate to contact us if you have further comments or a decision.

Thank you and best regards.

Yours sincerely,

Yanzhen Zhang

Department of Comprehensive Dentistry, The Second Affiliated Hospital of Zhejiang University School of Medicine, 1511 Jianghong Road, Changhe Street, Binjiang District, Hangzhou, Zhejiang 310052, China

Email: 2191004@zju.edu.cn

Reviewer #1:

Please improve the grammar.

Response: Thanks for your comment. The manuscript has been proofread and edited.

Please download the CARE checklist for case reports, and apply all its items to the article. Upload the filled checklist with revision.

Response: Thanks for your comment. We have read the CARE Checklist (2016), and the manuscript was revised according to the CARE Checklist (2016). The CARE Checklist (2016) has been filled and uploaded at this revision.

Please elaborate on the novelty of this case report, in the introduction.

Response: Thanks for your comment. The novelty of this case report has been elaborated in the Introduction section: “Multidisciplinary management might be a better approach for the treatment of PRG, but the current evidence is limited. To date, no case reports observed multidisciplinary management, including endodontic treatment, bone regeneration treatment, and prosthodontic treatment, in the treatment of PRG. Here we reported a patient with type II PRG treated with this multidisciplinary approach, and observed his prognosis for 2 years”.

Reviewer #2:

General English grammar revision (Minor spelling errors).

Response: Thanks for your comment. The manuscript has been proofread and edited.

Key words. “dentistry” and “periodontology” could be added in my opinion.

Response: Thanks for your comment. “dentistry” and “periodontology” have been

added as key words.

Introduction. Authors stated “PRG usually occurs on the palatal side of maxillary lateral incisors without dental caries or trauma”. Please add a reference for this statement.

Response: Thanks for your comment. References have been added.

Case Presentation Authors stated “On examination, tooth 12 had an intact crown without defect or fracture, but it did not respond to electric pulp testing.”. Please add details about pulp tester the first time it appears in the text: commercial name manufacturer, City and State.

Response: Thanks for your comment. The corresponding information of the pulp tester (DY310, Denjoy Dental, Changsha, China) has been added.

Case Presentation Authors stated “Periodontal examination revealed a 14-mm probing depth on the distal side of the root (Fig. 1b)”. Please add details about the probe: commercial name manufacturer, City and State.

Response: Thanks for your comment. The corresponding information of the probe (KPC15, Shanghai Kangqiao Dental Instruments Factory, Shanghai, China) has been added.

Case Presentation Authors stated “Dimensional reconstruction visualized a large bone defect and a long PRG extending up to the apical part of the tooth”. Please add details about software used, version, Manufacturer, City and State.

Response: Thanks for your comment. The corresponding information of the software (Asentajankatu 6, FIN-00880 Helsinki, Finland) has been added.

Treatment stated “The surgical area was disinfected”. Please point out how.

Response: Thanks for your comment. The surgical area (labiopalatine mucosa of teeth 13-22) was disinfected with 5% povidone-iodine after gargle with 0.2%

chlorhexidine for 1 min, followed by local anesthesia with 5 mL of 2% lidocaine mixed with 1:100,000 epinephrine. This has been added to the Treatment section.

Discussion. Authors stated “Interdisciplinary approaches are recommended for managing such situations, such as degranulation of the defect, sealing of the groove, endodontic treatment, bone regeneration treatment, and prosthodontic treatment.”. Some discussion should be added concerning possible ancillary helpful therapies. It could be stated that “Some unexplored variables can have a significant influence on oral environment. The use of probiotics (Probiotic Alternative to Chlorhexidine in Periodontal Therapy: Evaluation of Clinical and Microbiological Parameters. Butera A, Gallo S, Maiorani C, Molino D, Chiesa A, Preda C, Esposito F, et al. Microorganisms. 2020 Dec 29;9(1):69.) and natural compounds (Chitosan and Hydroxyapatite Based Biomaterials to Circumvent Periprosthetic Joint Infections. Costa-Pinto AR, Lemos AL, Tavaría FK, Pintado M. Materials (Basel). 2021 Feb 8;14(4):804.) can modify Clinical and Microbiological Parameters in periodontal patients, they could have an effect also in the response to the technique described in the present report. All these variables should be considered in future clinical trials”.

Response: Thanks for your comment. Your suggested statements have been added to the Discussion.

Discussion. Authors stated “The healing of the tooth was uneventful, and the bone around the defect was stable after two years. To date, no studies have reported the result of iRoot BP plus used in sealing PRG. The present case may provide a clinical basis for a new application of this material”. It should be added that also other applications could be tested. It could be pointed out that “Additionally. Laser (Effects of ozonated olive oil and photobiomodulation using diode laser on gingival depigmented wound: A randomized clinical study. Tualzik T, Chopra R, Gupta SJ, Sharma N, Khare M, et al. J Indian Soc Periodontol. 2021 Sep-Oct;25(5):422-426.) and ozone (Butera A, Gallo S, Pascadopoli M, Luraghi G, et al. Ozonized Water Administration in Peri-Implant Mucositis Sites: A Randomized Clinical Trial. Applied Sciences. 2021; 11(17):7812.)

therapies have been proposed for periodontal health showing promising results. Future reports are needed in order to test these therapies also for PRG”.

Response: Thanks for your comment. Your suggested statements have been added to the Discussion.

Discussion. Please add a paragraph concerning the treatment alternatives.

Response: Thanks for your comment. A paragraph concerning the treatment alternatives has been added to the Discussion section: “For complex cases, multidisciplinary management might be a better option for optimal clinical outcomes. However, when patients had an extensive groove area and severe complications, even multidisciplinary approach with combination of conservative treatment and local surgery cannot result in favorable prognosis. Intentional extraction of a problematic tooth and subsequent reimplantation might be an alternative option for these patients (Forero-López J, Gamboa-Martínez L, Pico-Porras L, Niño-Barrera JL. Surgical management with intentional replantation on a tooth with palato-radicular groove. *Restor Dent Endod* 2014; **40**(2): 166-171)”.

Discussion. Please add a paragraph showing the limitations of the present report.

Response: Thanks for your comment. A paragraph showing the limitations of the present report has been added to the Discussion section: “On the other hand, our report of this case might still need further investigation to confirm the real value of the present multidisciplinary treatment considering the too limited sample size.”.

References. Some references are quite old (1968;1985;1981;1993;1989;1996). If possible, please switch with some more modern research. Some recent studies have been suggested in the sections above.

Response: Thanks for your comment. These outdated references have been removed or updated with more modern researches.

Science editor:

This manuscript reports the case of palato radial groove (PRG). Please modify the language and enrich the discussion. Please correct the submission error of signed informed consent form (s) or document (s) and update references.

Response: Thanks for your comment. The manuscript has been proofread and edited. The discussion has been enriched. The original Chinese version of signed informed consent form and its translated English version have been uploaded at this revision. The outdated references have been removed or updated with more modern researches.

Company editor-in-chief:

Before its final acceptance, the author(s) must provide the Signed Consent for Treatment Form(s) or Document(s). Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor. Please upload the approved grant application form(s) or funding agency copy of any approval document(s).

Response: Thanks for your comment. The original Chinese version of signed informed consent form and its translated English version have been uploaded at this revision. The PPT format of Figure files has been provided. This study was supported by Support Program for Young Innovative Talents of Zhejiang Province (grant number: 2022RC158). The original Chinese version and translated English version of approval grant documents have been provided.

Answering Re-reviewers

Dear Editor and Reviewers,

Thank you for your letter and comments on our manuscript, All comments are valuable and very helpful for revising and improving our manuscript, with important guiding significance to our studies.

We appreciate your positive comments and will try our best to further improve.