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OPEN PEER REVIEW

Examining the Relationship: *Porphyromonas gingivalis* Presence in Subgingival and Atherosclerotic Plaques of Cadavers

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This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

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1 Original submission

1 comment · 17 Apr 2024

Referee 1 Reviewer

ACCEPT 17 Apr 2024

Dear editor

The manuscript entitled " Examining the Relationship: Porphyromonas gingivalis Presence in Subgingival and Atherosclerotic Plaques of Cadavers; Control with periodontitis compared to the healthy group Patients with risk factors" is an interesting study of the relationship between the presence of Porphyromonas gingivalis in subgingival and atherosclerotic plaques. The manuscript is well written. The only thing worth mentioning about the writing is the repetition of information about the samples in the results and methods sections.

The discussion is well written, but in general, it is difficult to discuss and draw conclusions about this research because, as the researchers have mentioned, the sampling for this research is limited, and as a result, the number of samples is small.

The fact that most of the bacteria were observed in subgingival and not atherosclerotic plaques raises questions about the results that can be answered only with a larger number of samples.

It would have been better to include a reference in the discussion about the prevalence of this bacterium in healthy people in the general population and to use this information in the discussion and conclusions.

Regards

2

Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Reviewer 1:
Dear editor

The manuscript entitled" Examining the Relationship: Porphyromonas gingivalis Presence in Subgingival and Atherosclerotic Plaques of Cadavers; Control with periodontitis compared to the healthy group Patients with risk factors" is an interesting research about the relationship between the presence of porphyromonas gingivalis in Subgingival and Atherosclerotic Plaques. The manuscript is well written.

The only thing worth mentioning about the writing is the repetition of the information of the samples in the results and methods, which are mentioned in both places.

The discussion is well written but in general, it is difficult to discuss and draw conclusions about this research because, as the researchers have mentioned, the sampling for this research and as a result the number of samples is small.
The fact that most of the bacteria were observed in Subgingival and not Atherosclerotic Plaques calls the results into question that can be answered only by the most number of samples.

It would have been better to include a reference in the discussion about the prevalence of this bacterium in normal people of the society and use this issue in the discussion and conclusions.

Answer
Dear Reviewer 1,

Thank you for your thoughtful review of our manuscript. We appreciate your feedback and would like to address the points you have raised.

1. Regarding the repetition of information about the samples in both the methods and results sections, you make a valid observation. We reviewed the manuscript and streamline the presentation to avoid this duplication, ensuring a more concise and coherent flow of information.

2. You rightly point out that the small sample size in our study limits the ability to draw definitive conclusions. As mentioned in the discussion, the challenges in obtaining suitable samples from cadavers posed a significant constraint. We acknowledge that a larger sample size would have strengthened the statistical power and reliability of our findings. However, we believe that the insights gained from this preliminary investigation warrant further exploration in future studies with larger and more diverse populations.

3. Your suggestion to include reference data on the prevalence of Porphyromonas gingivalis in the general population is an excellent point. We included this information in the revised discussion to enhance the overall framing and interpretation of our study.

Regards

Reviewer 2:

1. Could you please elaborate on your utilization of the real-time PCR technique? Were you able to employ the conventional PCR method?

2. Kindly provide an explanation in the conclusion regarding the novelty of study compared to other similar studies.

3. Please clearly state the future goals that you intend to complete and continue your research project in the conclusion section

Answer
Dear Reviewer 2,

Thank you for your valuable feedback on our manuscript. Please find our responses to your comments below:

1. Utilization of real-time PCR technique:
In our study, we employed the real-time PCR technique to detect the presence of Porphyromonas gingivalis DNA in the subgingival and atherosclerotic plaque samples. The real-time PCR method was selected due to its higher reliability and sensitivity in detecting lower numbers of bacterial DNA, especially for P. gingivalis, which can be challenging to detect in the types of samples used in this study. Unlike conventional PCR, the real-time PCR approach allowed us to more accurately and sensitively determine the presence or absence of P. gingivalis DNA in the collected subgingival and atherosclerotic plaque samples.

2. Novelty of the study:
The key novelty of our study lies in the investigation of the presence of P. gingivalis DNA in both subgingival and atherosclerotic plaque samples obtained from the same cadavers. This direct comparison within the same individuals allowed us to establish a more robust association between the presence of this periodontal pathogen in the oral cavity and its potential involvement in the development of atherosclerotic plaques. Previous studies have reported similar findings, but the strength of our study is the pairwise analysis of samples from the same subjects, which provides a more reliable assessment of the relationship between oral and cardiovascular health.

3. Future research goals:
In the conclusion section, we have highlighted the need for future studies to build upon our findings. Some of the key goals for future research include:

- Expanding the sample size and diversity of the study population to enhance the statistical power and generalizability of the results.
- Employing next-generation sequencing techniques to comprehensively characterize the entire microbial composition of the oral and atherosclerotic plaque samples, which could provide deeper insights into the role of the oral microbiome in the pathogenesis of cardiovascular diseases.
- Investigating the potential causal mechanisms underlying the association between periodontal pathogens, such as P. gingivalis, and the development and progression of atherosclerosis through in-depth molecular and cellular studies.

- Exploring the potential therapeutic implications of targeting periodontal diseases as a means of reducing the risk or progression of cardiovascular diseases.

We included the summary of these points in discussion and conclusion of the manuscript.

Thank you again for your constructive feedback. We appreciate the opportunity to clarify and strengthen our manuscript.

Sincerely,

2 Revision 1

0 comments

No public comments in this round.