Peer Review File

Article information: http://dx.doi.org/10.21037/fomm-21-53

Reviewer A

- Was there any way for you to do a systematic review which would have more scientific value? https://lib.guides.umd.edu/SR/steps

Response: We chose a narrative review, which is a comprehensive narrative synthesis of some previously published information, that was presented in a condensed format. Narrative overviews are useful as edifying articles, since they epitomize many pieces of information into a more readable format. Therefore, this approach is helpful in presenting a broad perspective on a topic (Green et al., 2001).

Green BN, Johnson CD, Adams A. Writing narrative literature reviews for peer-reviewed journals: secrets of the trade. J Chiropr Rehabil 2001;15:5–19.

Reviewer B

- This is a narrative review of the effect of antimicrobial photodynamic therapy in the treatment of peri-implantitis. Narrative reviews use subjective methodology, and lack objective quantitative tools. Unfortunately, the conclusions of narrative reviews are not reliable. There are already a few well-conducted systematic reviews that investigated the effect of antimicrobial photodynamic therapy in the treatment of peri-implantitis. This paper did not add valuable information to what already has been published.

Response: We chose a narrative review, which is a comprehensive narrative synthesis of some previously published information, that was presented in condensed format. Narrative overviews are useful as edifying articles, since they epitomize many pieces of

information into a more readable format. Therefore, this approach is helpful in presenting a broad perspective on a topic (Green et al., 2001).

Green BN, Johnson CD, Adams A. Writing narrative literature reviews for peer-reviewed journals: secrets of the trade. J Chiropr Rehabil 2001;15:5–19.

- Chambrone et al 2018 did a thorough systematic review evaluates the efficacy of antimicrobial photodynamic therapy as an adjunct therapy in the treatment of periodontitis and peri-implantitis It is intriguing that the conclusion of the present study somewhat contradict the conclusions of the study by Chambrone et al.

Response: Chambrone et al. (2018) concluded that aPDT might provide similar clinical improvements when compared with conventional periodontal therapy for both periodontitis and periimplantitis patients. The authors found limited evidence of the benefits of combining surgical intervention and aPDT, but highlighted the importance of aPDT in patients with systemic conditions that contraindicate surgical management. In the aforementioned systematic review, the authors included 26 randomized controlled trials, in which 24 studied aggressive or chronic periodontitis and only 2 studied peri-implantitis (Romeo et al. 2016; Bombeccari et al. 2013). Romeo et al. (2016) demonstrated effectiveness in reducing clinical indices and bacterial load at sites affected by periimplantitis of aPDT, highlighting that the aPDT seems act as a coadjuvant in the treatment of peri-implantitis if associated with mechanical (scaling) and surgical (grafts) treatments in order to control peri-implant disease. Bombeccari et al. (2013) concluded that aPDT seems to reduce distinctly the clinical signs of periimplant inflammation, resulting in a significant reduction of the bleeding scores and inflammatory exudates with respect to the conventional surgical approach. On the other hand, later studies demonstrated aPDT is effective in reducing the bacterial load and has potential as therapy (Fraga et al., 2018), being effective in reducing inflammation after a single session (Cadore et al., 2019), suiting as an alternative to antibiotics in the treatment of peri-implantitis (Zhao et al., 2021).

Response: We agreed with the reviewer and information was added. in page 10, line 10-23 and page 11, line 1-3:

In their systematic review, Chambrone, Wang, Romanos (2018) found limited evidence of the benefits of combining surgical intervention and aPDT as a treatment of periodontitis and peri-implantitis, with few studies reporting improvements over 3 months, and that well-defined clinical protocols are scarce. The authors highlighted the importance of aPDT in atients with systemic conditions that contraindicate surgical management. The authors included 26 randomized controlled trials, in which 24 studied aggressive or chronic periodontitis and only 2 studied peri-implantitis (Romeo et al. 2016; Bombeccari et al. 2013). Romeo et al. (2016) demonstrated effectiveness in reducing clinical indices and bacterial load at sites affected by periimplantitis of aPDT, highlighting that the aPDT seems act as a coadjuvant in the treatment of peri-implantitis if associated with mechanical (scaling) and surgical (grafts) treatments in order to control peri-implant disease. Bombeccari et al. (2013) concluded that aPDT seems to reduce distinctly the clinical signs of periimplant inflammation, resulting in a significant reduction of the bleeding scores and inflammatory exudates with respect to the conventional surgical approach. (13,19,20).

Reviewer C

- In the title of the manuscript the authors used the term “photobiomodulation” in the opposite of the aim of the study, where the authors wrote that objective was “to conduct a literature review on the use of photodynamic therapy in the treatment of peri-implantitis”. These two procedures are different. Photobiomodulation therapy (PBM) is a photon-based therapy that uses light to mediate a variety of metabolic, analgesic, anti-inflammatory, and immunomodulatory effects. Antimicrobial photodynamic therapy

(aPDT) is a branch of photodynamic therapy based on the reaction between a photosensitizing agent and a light source in the presence of oxygen, which can produce oxidative and free radical agents to damage the microorganisms. Please explain why this accuracy? This is not clear if the authors used for review combination these two methods treatments, because in the methods section we can find that the authors “discussed use of antibacterial use of photodynamic therapy in the treatment of peri-implantitis”. It is confusing.

Response: We agreed to the reviewer and the tilte and running title was changed. in page 1, line 3-7:

Title: Effect of antimicrobial photodynamic therapy on the treatment of peri-implantitis: Narrative Review.
Running title: Antimicrobial photodynamic therapy on the treatment of peri-implantitis

- Keywords: should be in alphabetical order and please remove “dental implantation”, add aPDT, please don't use the same words in the key words in the title.

Response: We agreed to the reviewer and the tilte and running title was changed. in page 3, line 14 and 15:
Keywords: aPDT; Low-level laser therapy; Peri-implant Diseases.

- Material & Methods:

- Research Collection Strategy should be more detailed. For searching the Authors should add more keywords as: “PDT”, “aPDT”, “TBO” or other and they should use more search engine, not only PubMed but also Medline, Web of Science and the Cochrane Central Register of Controlled Trials (CEN-TRAL) databases.
Response: Unfortunately, in this research the search was carried out using only PUBMED and the keywords: "Peri-implantitis", "low-level laser therapy", " antimicrobial photodynamic therapy".

- is lack of information and Figures showed PRISMA statement as well as the Cochrane Handbook of Systematic Reviews of Interventions, details of the selection and others. Lack of eligibility criteria and assessing risk of bias in individual study.

Response: We chose narrative review, which is a comprehensive narrative synthesis of some previously published information, that waspresented in condensed format. Narrative overviews are useful as edifying articles, since they epitomize many pieces of information into a more readable format. Therefore, this approach is helpful in presenting a broad perspective on a topic (Green et al., 2001). Furhterly, we present the following article in accordance with the Narrative Review reporting checklist.

Green BN, Johnson CD, Adams A. Writing narrative literature reviews for peer-reviewed journals: secrets of the trade. J Chiropr Rehabil 2001;15:5–19.

- Discussion

- Should me more developed. Some information from discussion should be stated in the introduction section

Response: We agreed to the reviewer and information was added to the paper. in page 10, line 10-23 and page 11, line 1-3:

In their systematic review, Chambrone, Wang, Romanos (2018) found limited evidence of the benefits of combining surgical intervention and aPDT as a treatment of periodontitis and peri-implantitis, with few studies reporting improvements over 3 months, and that well-defined clinical protocols are scarce. The authors highlighted the importance of aPDT in atients with systemic conditions that contraindicate surgical management. The authos included 26 randomized controlled trials, in which 24 studied aggressive or chronic periodontitis and only 2 studied peri-implantitis (Romeo et al. 2016; Bombeccari et al. 2013). Romeo et al. (2016) demonstrated effectiveness in reducing clinical indices and bacterial load at sites affected by periimplantitis of aPDT,

highlighting that the aPDT seems act as a coadjuvant in the treatment of peri-implantitis if associated with mechanical (scaling) and surgical (grafts) treatments in order to control peri-implant disease. Bombeccari et al. (2013) concluded that aPDT seems to reduce distinctly the clinical signs of periimplant inflammation, resulting in a significant reduction of the bleeding scores and inflammatory exudates with respect to the conventional surgical approach. (13,19,20).

- Conclusion: the “desquamation” should be changed for “deepitelialisation”, and in the introduction section this topic should be more describe

  Response: We agreed to the reviewer. There was an error regarding the word and the text in abstract page 3, line 7-12 and in conclusion was replaced in page 11, line 4-13:

  Antimicrobial photodynamic therapy can be considered an adjunct to mechanical (scaling) and surgical (grafts) treatments in peri-implantitis since it appears to be effective in reducing the bacterial load and has potential as therapy. Additionally, clinical and radiographic follow-up of the patient is important to monitor the improvement of gingival inflammation, implant mobility, and the interruption of bone loss.

  In conclusion, aPDT can be considered an adjunct to mechanical (scaling) and surgical (grafts) treatments in peri-implantitis (22) since it appears to be effective in reducing the bacterial load and has potential as therapy (23). Multiple sessions of aPDT are more effective in reducing inflammation than a single session (24). Additionally, aPDT seems to be an alternative to antibiotics in the treatment of peri-implantitis (25). Clinical and radiographic follow-up of the patient is important to monitor the improvement of gingival inflammation, implant mobility, and the interruption of bone loss (13,14,19,21).