Author's response to reviews

Title: Efficacy of low level laser therapy on neurosensory recovery in the inferior alveolar nerve: Report of 4 cases

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Author's response to reviews: see over
Revision of the manuscript:

Dear Editor;

First of all thank you very much for your kind concern about our manuscript. Secondly, as you mentioned, we revised our manuscript as per the reviewers’ suggestions and comments. We used the Professor Walsh’s corrected manuscript which you sent us before for further revisions. We like to express our deep gratitude to Professor Walsh for his kind concern and efforts regarding the manuscript through you. The changes which we made for the correction of the manuscript are listed below.

Kind Regards

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Reviewer 1:

1. As the reviewer suggested, the abstract was organized into a standard format as: background, methods, results, and conclusions. Thus, the article was converted from a case report to a research paper.

2. The title of the article was also changed; the old title Report of 4 cases was omitted and the final title “Efficacy of low level laser therapy on neurosensory recovery after injury to the inferior alveolar nerve” was used.

3. In the abstract section, pharmacologic therapy was included in the text as a treatment option of long-standing sensory aberrations in the inferior alveolar nerve.

4. As the reviewer mentioned, there are several techniques described for nerve repair. Starting from the last paragraph on page 3, and continuing on page 4 the limitations
and the disadvantages of these techniques were mentioned and added to the text with additional references. The pros and cons of these techniques were also introduced.

5. The surgical procedures undergone by the patients were explained in detail.

6. The surgeons who performed the third molar surgery, were indicated in the text as follows “Surgeons who were graduate dentists specializing in Oral Surgery (in their second, or third year) performed the all extractions of the subjects”.

7. The anesthetic technique as well as the agent and amount used were described in the Methods section in detail.

8. It was indicated in the text that the reason of the mandibular block injury was either third molar surgery or the local anesthetic injection with or without direct needle trauma.

9. A clear distinction was made between the patients and injected into the text starting from the first paragraph of page 6 as follows:

After the third molar surgeries, subsequent neurosensory impairment had occurred in the patients. These impairments were as follows: two patients had slightly painful dysesthesia of lip, chin and gingival regions (patients II and IV), while patient I had hypoesthesia on the area of the chin, gingiva, buccal regions and the lips, and patient III had complete paresthesia caused by the injury of the IAN. Besides these impairments, the clinical examination of the patients also revealed no alterations of sensation in the tongue, no taste problems or thermal sensation problems. The pre-operative panoramic radiographs revealed the close relationship between the right mandibular third molar tooth and the IAN before surgery (Figure 1). It was thought that these impairments had formed due to either the third molar surgery or the local anesthetic injection with or without direct needle trauma. No treatment, surgical or otherwise, had been provided for the treatment of these complaints after surgery.

10. The follow-up procedures and times were explained in detail according to patients and a mean time with a range was given in the last paragraph of page 6.
11. The specific classification was given for the patients’ nerve injury using Sunderland classification with new references.

12. Following the study group description, as the reviewer suggested, a complete LLL treatment regimen was provided and added under the title “LLL Treatment” on page 7.

13. The specifications of the system which was used in the treatment was described in detail. It was also explained that the LLL treatments and recording of data were performed by a second doctor not involved in any of the surgeries while analysis of the recorded data was performed by a third doctor.

14. The neurosensory tests were put under the heading of Assessment of Neurosensory Deficit in order to obtain a standard format in this section.

15. As the reviewer suggested, the results were presented in a separate section and added. In this section, as it was mentioned by the reviewer, statistical tests were performed on the results of the pre and post treatment LLL although the data is small. The Wilcoxon test was used in order to compare the two-samples ($p<0.05$).

16. The discussion section was rewritten and expanded with new references. The classification systems for nerve injury were explained in detail in the 2nd paragraph on page 9. As the reviewer mentioned possible mechanisms for IAN injury during third molar surgery were discussed, and more information on our personal theory for the cases were also stated in this section in paragraphs 1 and 2 on page 10.

17. As the reviewer mentioned, our cases were female patients. New references were added in this section in order to allow a discussion of this issue. The new references contain both animals and humans together for the discussion.

18. In the discussion part as mentioned by the reviewer, previous studies reported about the effect of LLL treatment on neurosensory recovery were discussed and compared to our study, starting from the last paragraph on page 11.
19. The success of the LLL treatment in our patients was discussed. Possible mechanisms about this issue were added and discussed in the text on page 12.

20. As the reviewer mentioned, the longest time period after nerve injury exhibited the most rapid response of all the patients. This finding was discussed and our personal theory was mentioned at the end of discussion part (page 13).

21. The conclusion was re-written with the inclusion of the rationale for the use of LLL in the nerve injuries.

22. A new figure was added to the manuscript for the treatment points intraorally (New Figure 3).

23. Figures 4, 5, and 6 were discussed further in the results section.

24. The legends were re-written for better explanations of the figures, especially Figure 4 as mentioned by the reviewer.

25. New references were added to the manuscript.

26. The reference list was numbered in the same order as the reference citations appear in the text.

27. The text was re-written with linguistic assistance. The corrections necessary in terms of grammar, punctuation, capitalization and spacing were made, and the entire manuscript was proofread by an English instructor.

Reviewer 2:

1. The quality of the graphs was improved. The previous figures were in JPG format. The new ones are in TIFF format and the resolutions of the new figures were prepared at a resolution of 300 dpi.

2. The background of the figures was changed to white as the reviewer suggested.

3. There were neither any sensations nor side effects during and after the LLL treatment. These were indicated in the text on page 7; The patients experienced no sensation when
the laser treatments were being carried out, and Page 8; The patients reported no side effects during or after the LLL treatment.

4. The specifications of the LLL system which was used in the treatment were described in detail. The sentence suggested by the reviewer was used in the text.

5. New references were added to the manuscript.

6. The reference list was numbered in the same order as the reference citations appear in the text.

7. The text was re-written with linguistic assistance. The corrections necessary in terms of grammar, punctuation, capitalization and spacing were made, and the entire manuscript was proofread by an English instructor.