

Review of: "[Case Study] Low-Level Laser and Its Interface With Sleep Dentistry: Clinical Case Report"

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Potential competing interests: No potential competing interests to declare.

This is an interventional study on a single patient suffering from Parkinson's disease, reporting the purported association between intra-oral low-level laser treatment and subjective improvement of sleep. In this reviewer's opinion, the authors fail to provide convincing evidence that such treatment may actually be useful in attenuating sleeping disorders, also because the suggested mechanistic explanation underlying such effect is neither demonstrated nor plausible.

Major points

1) Results-discussion: The section on the possible mechanistic explanation of the observed effect involving nitric oxide (NO) is both unclear and largely speculative. Indeed, NO does not impair blood perfusion but rather the opposite, as clearly shown by the widespread use of nitrovasodilators in the clinical management of severe hypertension and ischemic disorders. Anyhow, it is hard to believe that low-level laser applications on a restricted anatomical area of the rhynopharynx may actually have a substantial long-lasting effect on NO-dependent systemic vascular function, capable of inducing detectable CNS/behavioural effects.

Minor points

2) Introduction, 1st paragraph: Key citations of the relevant publications in support of the authors' statements, including riepilogative reviews, should be added here.

3) Figure 1: The patient's eyes should be covered in this photo to prevent identification for privacy issues.

4) Methods: Please report the daily doses of the medications taken by this patient.

5) Methods: Please report details of the analogue scale and scoring used for sleep disturbance assessment (I suggest using a table).

6) Methods: If available, a clinical photo taken during the intra-oral laser irradiation would be a helpful addition.

7) Methods: Please specify the exact time interval between the two weekly irradiations.

8) Results-discussion: "Score of 0 (ten) corresponding to the bad situation relative to normal sleep" - unclear sentence, please rephrase.

9) The English language is mostly understandable, although scattered mistakes and some too colloquial sentences and

constructions would benefit from the review of a mother-tongue specialist.