Author's response to reviews

Title: Myofascial trigger points in cluster headache patients: a case series.

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Author's response to reviews: see over
Dear Editor:

I am enclosing the revised version of the manuscript entitled “Myofascial trigger points and their pharmacological inactivation in cluster headache patients: a case series” (MS ID 1387040913211827). Our comments to the reviewers’ suggestions are detailed below.

Yours sincerely

Prof Elena P. Calandre MD
Comments to Dr Hong-You Ge (reviewer 1):

1. The expressions “myofascial trigger point” and “trigger point” have been substituted by “active myofascial trigger point” and “active trigger point” throughout the whole manuscript.

2. The text has been divided in the sections recommended by the reviewer.

3. The abbreviation have been defined when first used both in the Abstract section and in the Main Body of the manuscript.

4. The first two sentences of the abstract have been reformatted according to the reviewer’s suggestion.

5. Words in the abstract have been changed according to the reviewer’s suggestion.

6. The injections’ procedure has been detailed in the text.

7. The reviewer’s suggestions concerning the editing of the text have been applied; however, we have not replaced the expression “trigger points” by TrPs in the line 20 of page 5 because it seemed more appropriate to use the complete word on the beginning of the phrase; we can change it, nevertheless, if it is imperative.

8. Text’s insertion of reference 18 was an error as it was, effectively, reference 1; it has been deleted.

9. Word’s deletion on the table 2 footnote has been performed.

English has been revised and several changes have been done throughout the text.
A paragraph relative to the mechanisms potentially involved in the generation of peripheral sensitization in several types of primary headaches has been included in the discussion.
Comments to Dr Fumal (reviewer 2):

Major comments:

1. Following the reviewer’s recommendation, at the end of the introduction section we have extended the explanation about the reasons which leaded us to do the study

2. The timing of injection when abortive and preemptive injections were performed has been detailed in the text. Concerning the duration of attacks they markedly varied from one patient to other and even in the same patient depending on several factors, mainly the time of the day (attacks could be shorter, for instance, when appearing in the afternoon and longer when appearing during the night) that we have found impossible to synthesize the information in the space available for a short report. However, data have been added concerning the timing of injection and the maximum length of time required to abort the attack.

3. The mean attacks’ frequency before treatment is shown in Table 1. To describe the exact frequency of attacks during treatment is difficult since the degree of improvement varied noticeably from one patient to other, a fact probably related with the injections’ frequency which, as stated in the text, ranged from 1 to 5 per week depending on patient’s availability to come to our unit, which was the main problem which did not allow us to follow a stricter protocol; we have added total treatment duration to the number of injection’s sessions in order to clarify this aspect. To describe the degree of improvement in attacks’ frequency after treatment we have written in Table 2 the percentage of decrease, stating that in two cases it was due to a combination of injections and change of prophylactic therapy. Prophylactic treatments received by the patients at the beginning of the study have been included in Table 1 and previous kinds of treatment are enumerated in the text.

Minor comments:
1. We did not intend to state that traditional acupuncture in general is effective in migraine prophylaxis, but only that in one specific randomized clinical trial was found to be as effective as metoprolol. However, as the topic of the potential efficacy of acupuncture in migraine treatment is a difficult one and far beyond the purpose of our study, we have suppressed this reference and included one which has been already mentioned in a new paragraph introduced in the discussion following a comment from Dr Ge.

2. ONS has been included in the text and a new reference (ref. 15: Goadsby et al, headache 2008), a review article which deals with the mechanism of action of this technique and report the results obtained by Burns et al (2007) and Magis et al (2007) has been included.
Comments to Dr Myburgh (reviewer 3):

1. According to the reviewer’s suggestions, different changes have been introduced in the text. There are detailed below.

2. The text has been modified to state clearly that trigger points were active, not latent

3/4. The abstract has been modified to include data concerning episodic cluster patients and to specify that injections were done on trigger points

5. The text has been re-phrased as suggested

6. The text has been modified to clarify the meaning of the sentence

7. The verb “explore” has been substituted in different occasions throughout the text

8. We have re-written the sentence to clarify the explorer’s level of expertise

9. It is generally assumed that when the nail of the explorer’s finger loses its pink colour and begins to become white, the pressure exerted is roughly equivalent to 4 kg, and this has been stated in the text.

10. Our idea, after working with migraine patients exhibiting trigger points (see reference 8), was that a similar phenomenon could exist in cluster headache, i.e. that repeated painful headache attacks would induce peripheral sensitization of the surrounding areas and that they would be characterized by the presence of myofascial trigger points whose pressure provoked referred pain of cluster characteristics. We have tried to clarify this by modifying the text both in the sentence 5 of the 3rd paragraph as well as in the objective of the study

11. The presence of tenderness and taut band were considered essential to the
identification of trigger points. However, our search was directed to identify those trigger points which could be related with peripheral sensitization due to cluster headache, so that tenderness, suggesting only the presence of a tender point, or referred pain of non-cluster characteristics were dismissed in relation to trigger points injections. However, we must state that although some occasional tender point was found (especially in neck and shoulder areas) we did not encounter referred pain of non-cluster characteristics in any of our patients. We have tried to clarify these considerations in the text.

12. In fact, the exploration also included muscles of the shoulder area it can be seen now in Table 2

13. A paragraph has been added detailing injections’ methodology.

14. Most of the detected MTrPs could been abolished along an injection’s session. However, they usually reappeared later. This is consistent with the hypothesis that chronic severe pain can induce lasting peripheral sensitization. Injections’ sessions were repeated as long as the patient noticed some degree of improvement and until MTrPs disappear or, at least, become very difficult to locate.

16. The observation period of chronic cluster patients varied noticeably since the frequency of injections was conditioned both by the patient’s degree of improvement as well as by his availability to come to our unit: 4 patients were able to come only once a week, 3 of them were injected twice a week and 1 of them was injected five days weekly. Total period injections’ for each patient has been added in Table 2.

17. A headache diary was considered necessary only for chronic cluster patients in order to ascertain the evolution of the attacks; this data has been incorporated to the text.

18. Yes, most of the patients experienced a reduction in the frequency AND in the
severity of the attacks; this has been also added in the revised manuscript.

19. As dry needling is painful and the local injection of anaesthetic rarely induces side effects excluding those patients known to have experienced an allergic reaction when submitted to some dental procedure, we choose to select the later procedure.

20. As Table 1 has been expanded to include individual prophylactic therapy at the beginning of the study, no additional space was available to include more data. However, we have specified in the text that no patient suffered any medical comorbid condition.

15/21. Individual TrPs locations have been specified in table 2
Comments to Dr Ettlin (reviewer 4):

Thank you very much indeed for your opinion.