Reviewer's report

Title: Anti-nuclear Antibody and Rheumatoid Factor Positivity in Temporomandibular Disorders

Version: 0 Date: 29 Sep 2018

Reviewer: Gaetano Isola

Reviewer's report:

In the manuscript entitled: "Anti-nuclear Antibody and Rheumatoid Factor Positivity in Temporomandibular Disorders" the authors investigated the differences in clinical characteristics and long-term treatment outcomes according to the anti-nuclear antibody (ANA) and rheumatoid factor (RF) positivity and the correlation between pain-related and hematological indices in temporomandibular disorders (TMD) patients.

In their clinical study, 257 patients with TMD were enrolled. In each patient, clinical and comprehensive screening along with psychological and hematological evaluations were evaluated (ANA, RF, complete blood cell count, C-reactive protein (CRP) and erythrocyte sedimentation rate [ESR]).

The authors found that 39 patients were ANA/RF positivity, Male patients had smaller comfortable mouth opening, and maximum mouth opening range with more painful neck muscles on palpation when RF/ANA positive. Moreover, they found that significant correlation was shown in ESR with pain duration and numeric rating scale (NRS) before treatment, CRP with NRS before treatment, and red blood cell (RBC) with pain intensity, NRS before treatment, CMO, pain on palpation of cervical muscles, CMO and MMO 6 months after treatment.

The authors concluded that RF and ANA could be considered as a screening test for the detection of autoimmune phenomena in TMD. Moreover, they stated that TMD patients might show an autoimmune disposition that is associated with pain of a higher level and more dysfunction followed by poor treatment outcomes. The results of the present study may be considered in the diagnosis and prognosis prediction process of chronic TMD pain.

Major comments:

In general, the idea and innovation of this study, regards the analysis of anti-nuclear antibody and rheumatoid factor positivity in Temporomandibular Disorder through a comprehensive screening along with psychological and hematological evaluations is interesting, because the role of the ANA and RF in TMD patients is validated but further studies on this topic could be an
innovative issue in this field could be open an innovative matter of debate in literature by adding new information. Moreover, there are few reports in the literature that studied this interesting topic with this kind of study design.

The study was well conducted by the authors; However, there are some concerns to revise that are described below.

The introduction section resumes the existing knowledge regarding the TMJ involvement as a clinical dysfunction in patients without diseases.


The authors should be better specified, at the end of the introduction section, the rational of the study and the aim of the study with the null hypothesis.

In the material and methods section, should better clarify the inclusion and exclusion criteria of the analysed sample and the Angle's class of malocclusion of all enrolled subjects.

Moreover, specify if was performed, the intra-examiner agreement for the clinical assessment of TMSD pain analyses. Please specify the test unit chosen for the analysis.

The discussion section appears well organized with the relevant paper that support the conclusions, even if the authors should better discuss the relationship between TMJ dysfunction and the low quality of life in juvenile idiopathic arthritis patients. The conclusion should reinforce in light of the discussions.
In conclusion, I am sure that the authors are fine clinicians who achieve very nice results with their adopted protocol. However, this study, in my view does not in its current form satisfy a very high scientific requirement for publication in this journal and requests some revisions.

Minor Comments:

Abstract:
- Better formulate the Materials and Methods section, not really clear

Introduction:
- Page 3, line 27: please add the relative sentence

Discussion
- Please add a specific sentence that clarifies the results obtained in the first part of the discussion
- Page 12 last paragraph (lines 39-51): Please reorganize this paragraph that is not clear

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