



# Can the Arthralgia of Temporomandibular Joint Cause Referred Pain?

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Dear Editor:

Since 2014, the Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) is considered as the gold standard for evaluating TMD. Unlike Research DC/TMD, DC/TMD divides muscle pain into local myalgia, myofascial pain, and myofascial pain with referral [1]. To differentiate the three subtypes of muscle pain, the duration of the 1 kg of palpation pressure is increased 2 to 5 seconds to allow more time to elicit spreading or referred pain, if present [2]. This means myofascial pain is more related to peripheral sensitization, whereas myofascial pain with referral is more related to central sensitization, which contributes to consider chronicity and centralization at the time of diagnosis of the patient.

According to DC/TMD, the criteria of diagnosis of temporomandibular joint (TMJ) arthralgia is relatively simple. Nevertheless, when palpating of the lateral pole of TMJ, the referred pain is often observed. We hope to suggest that a generalized hyperexcitability in the processing of nociceptive information in the arthralgia of TMJ that affects second order neurons throughout the trigeminal system and possibly also in the spinal level in the central nervous system. Even this upregulation can appear to occur in some toothaches and mucosal pain [3,4]. Convergence by multiple sensory nerves carrying input to the trigeminal spinal nuclei from cutaneous and deep tissues located throughout the head and neck is important for the occurrence of the referred pain to the other orofacial area [5].

Thus, the role of the arthralgia of TMJ in maintaining the referred pain should be formally investigated. Based on the etiology of referral pain, it may be necessary to add arthralgia with referral in a revised edition of DC/TMD. Of course, further studies will be needed to provide scientific evidence in terms of pathophysiological and clinical aspects of our assumptions.

## CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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