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Brief Review

The importance of the temporomandibular joint in the differential diagnosis of primary headaches and recurrent primary headaches

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Abstract

Introduction

The present article aims to popularize the temporomandibular disorder as a possible diagnosis when the phisician is facing a primary headache that was first thought to be a migraine headache or tension type headache, specially when they are not responsible to the treatment.

Methodology

This study focused on the clinical manifestation of the headache caused by temporomandibular disorder, with data searched in the National Library of Medicine, Scielo and PubMed libraries, from 2002 to 2022; also the 3rd edition of the International Classification of Headache Disorders (2018) and the Continuum Headache (2021). The aspects of the clinical manifestation chosen for comparison were location of the pain, type of pain, crisis duration, improvement and worsening factors and associated symptoms.

Results

27 articles were found and 3 were included and used to create a table comparing migraine, tension type and TMD headache. Some manifestations were similar, like bilateral location of headache (tension type and TMD headache) and many manifestations were distinct, like the type of pain (pulsatile for migraine, tight for tension type and rigidity or stabbing for TMD headache). In face of these results, it is clear that there are many aspects of the differential diagnosis between these three types of headache that can be investigated so that we can distinguish them. This study also reiterates the need for further studies regarding this topic.

Conclusion

It is very reasonable to consider TMD headache as a first diagnosis when the complaint is a primary headache, as much as it is reasonable to consider this diagnosis when the refractoriness is the complaint. Also, considering the TMD as a trigger to the other headaches.

Keywords:
Temporomandibular
Headache
Migraine
Tension-type
Symptoms

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Introduction

The temporomandibular joint is a joint between the temporal bone superiorly and the mandibular bone inferiorly. It is established by the mandibular fossa of the temporal bone and the articular tubercle of the temporal bone in contact with the head of the mandible.[1]

Temporomandibular disorders are possible impairments of this structure and nearby structures, and there are few cases with temporomandibular disorder as a diagnostic hypothesis.[2,3]

Methods

Qualitative retrospective study, aiming to include clinical manifestations of headache caused by temporomandibular disorder, in order to compare them with the already well-established manifestations of primary headaches and primary refractory headaches in order to popularize the subject, and not to elaborate a bibliographical review. Temporomandibular disorder headache manifestations were searched in the National Library of Medicine, Scielo and PubMed libraries, including articles from the years 2002 to 2022. The other sources that composed the article were: the 3rd edition of the International Classification of Headache Disorders of 2018 and the Continuum Headache of 2021.

The criteria chosen for clinical comparison include: location, type of pain, crisis duration, improvement factors, worsening factors and associated symptoms.

Results

We found 27 articles that proposed to discuss, to some degree, clinical aspects of headache caused by temporomandibular disorders.

Of the 27 articles, 24 were not part of this work because they were not objectively composed, within the format limitations of this text. In total, three were considered more adequate by the authors to prepare the comparative table of clinical manifestations and bring light to the subject.

Table 1. Comparison of selected primary headache characteristics with TMD headache.

Manifestation	Migraine	Tension-type headache	TMD headache
Localization	Alternating unilateral, predominance on one side.[4, 5]	Bilateral.[5]	Unilateral or bilateral, in the mandible, ear, apex of the head.[5]
Pain type	Pulsatile[5]	Not throbbing, tight, pressure, heaviness type. Irradiation to the back, neck and periorbital region [5]	Rigidity or stabbing[5]
Duration of the episode	4 to 72 hours[5]	Episodic: less than 1 day/ month Frequent: 1 to 14 days a month Chronic: 15 or more days per month, More frequent later in the day.	Not specified.
Improvement factors	Acute or abortive clinical treatment[4]	Relaxing physical activity, analgesics and NSAIDs[5]	Improve habits with the jaw[6]
Worsening factors	Stress, lights or flashes, worse with physical activity[4,5]	Not worsened by routine physical activity, such as walking or climbing stairs[5]	Mouth movements, jaw opening[6]
Associated symptoms	Nausea and/ or vomiting, or photo- and phonophobia; autonomic component, associated aura, before, during or after the crisis.[4,5]	Stress and mental tension, increased muscle sensitivity; may have photophobia or phonophobia. Nausea and vomiting are not associated.[5]	Cracking or clicking in the jaw joint, stiffness of the periarticular musculature, bruxism. It can cause insomnia associated with headache.[6]

TMD - Temporomandibular disorder

Discussion

The diagnosis of headache follows clinical criteria based on the classification of headaches and cranial pain. As it is based on the history and neurological and cephaliatric clinical findings, attention is needed to the possibility of common symptoms present in the various headaches and also in the differentiation of neck pain and orofacial pain. This study draws attention to the need for the differential diagnosis of primary headaches, and especially those with refractoriness, in order to assess the overlapping symptoms and confounding factors of temporomandibular disorders.

Attention is drawn to the need for more comparative studies between these and other causes of confounding factors and overlapping diagnoses, nor the need to emphasize the location of migraine, which occurs, even if to a lesser extent, with alternation; photophobia and phonophobia with better detail, as other pains and other disturbances may imply that these are present; indisposition to light and noise are not always photophobia or phonophobia. Also valid for temporomandibular disorder associated headache.

Conclusion

The refractoriness of primary headaches can, in some cases, be explained by the association of more headaches present, in the same individual, as in this study, with the temporomandibular disorder. Not only in cases of refractoriness, the present study aims to assign special attention to complaints, as well as to the physical examination already in the first consultation, for TMD, as a possible cause or trigger of other.

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References

1. Moore KL, Dalley AF; Agur AMR. **Anatomia Orientada para Clínica**. 8 ed. Rio de Janeiro: Guanabara Koogan; 2018. 1064 p.
2. Albrecht BP and César ARA. **Prevalência de cefaleia em pessoas com diagnóstico de disfunçãotemporomandibular.** *Headache Medicine* 2021; 12 (Supplement):10 Doi: 10.48208/HeadacheMed.2021.Supplement.10
3. Albrecht BP, Groto AD and César ARA. **Temporomandibular Disorder sub-diagnosis as a possible cause of headache.** *Research, Society and Development* 2021;10(7): e39610716810 Doi:10.33448/rsd-v10i7.16810
4. Ailani J, Burch RC and Robbins MS. **The American Headache Society Consensus Statement: Update on integrating new migraine treatments into clinical practice**. *Headache* 2021;61(7):1021-1039 Doi:10.1111/head.14153
5. Kowacs FM, Macedo DDP and Silva-Neto RP. **Classificação Internacional das Cefaleias / Comitê de Classificação das Cefaleias da Sociedade Internacional de Cefaleia**. São Paulo: Omnifarma; 2018. 204 p.
6. Rossi SS, Greenberg MS, Liu F and Steinkeler A. **Temporomandibular disorders: evaluation and management.** *Med Clin North Am* 2014;98(6):1353-1384 Doi:10.1016/j.mcna.2014.08.009
7. Schiffman E, Ohrbach R, Truelove E, Look J, Anderson G, Goulet JP, . . . Dworkin SF. **Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) for Clinical and Research Applications: recommendations of the International RDC/TMD Consortium Network* and Orofacial Pain Special Interest Group†**. *J Oral Facial Pain Head* 2014;28(1):6-27 Doi:10.11607/jop.1151