

Migraine Masquerading as Temporomandibular Disorders: A Case Report

Yoshinobu Shoji¹, Harold V Cohen²

1 Oral & Maxillofacial Diagnostics and Medicine, Faculty of Dentistry, Universiti of Teknologi MARA, Selangor, Malaysia
2 Department of Diagnostic Sciences, Division of Oral Medicine, Rutgers School of Dental Medicine, USA

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Corresponding author:

Yoshinobu Shoji,

Assoc Prof, Oral & Maxillofacial
Diagnostics and Medicine,

Faculty of Dentistry,

Universiti of Teknologi MARA,

Jalan Hospital, Sungai Buloh

47000 Selangor, Malaysia

Email: shoji@salam.uitm.edu.my

Phone: +603-61266620

Fax: +603-61266103

ABSTRACT

Migraine is a common disabling primary headache disorder. Ipsilateral radiation of pain to orofacial regions, including teeth, jaws and temporomandibular joints, although not a common complaint, could occur. The area of involvement may obscure the diagnosis and lead to unnecessary dental treatment. A case is presented in which a patient initially sought dental care for left jaw pain that radiated to her left maxillary teeth and temple region and she was also experiencing discomfort in the left masticatory musculature. Subsequently a medical consult diagnosed migraine headache without aura and fortunately unnecessary dental treatment was not done. The key issue here is the complexity of the Trigeminal nerve when the dentist is assessing a patient for dental or other orofacial pain complaints and dental pathology has been ruled out. Equally as important is the dentist taking thorough medical history since a patient may not tell a dentist about a "headache" because the pain is in the teeth and/or jaws. And, perhaps most important is the final differential diagnosis whether made by the dentist or medical care provider.

KEYWORDS: Headache, masticatory muscle pain, migraine, orofacial pain, temporomandibular disorders

INTRODUCTION

According to the International Classification of Headache Disorders; 2nd edition (ICHD-II)" published by the International Headache Society (IHS) [1], migraine is a common disabling primary headache disorder. However, ipsilateral radiation to orofacial regions, including teeth, jaws and temporomandibular joints, is not unusual. The area of involvement may obscure the diagnosis and lead to unnecessary dental treatment and/or a delay in providing necessary medical care for the patient. This could be more critical if the final medical diagnosis was a serious medical issue such as a brain tumor. A case is presented in which the patient complained of masticatory and cervical muscle pain that was initially diagnosed by a dentist as temporomandibular disorder (TMD) but was actually secondary to pre-existing migraine headache.

CASE PRESENTATION

A 22-year-old female initially presented to her dentist with a complaint of left jaw pain that started about two months prior. She described the quality of her pain as a

dull ache. Since her pain appeared to come from her left maxillary teeth and she was also experiencing difficulty in mouth opening and chewing, her dentist diagnosed her problem as a TMD. Initial therapy by the dentist included an intraoral appliance, nonsteroidal anti-inflammatory drugs (NSAIDs) and muscle relaxants, neither of which provided relief from her pain. She was then referred to the Orofacial Pain clinic, University of Technology MARA (UiTM), Malaysia. When the patient presented, she complained of the pain in her left temple and left jaw but was not experiencing ipsilateral lacrimation, rhinorrhea, eyelid edema, or any paresthesia. A panoramic x-ray was taken which did not reveal any dental/alveolar pathology and an intraoral examination was also negative for dental, alveolar and soft tissue pathology. An extraoral examination was also negative for pathology. TMD evaluation revealed a normal range of mandibular motion and no tenderness or disc problems in the left temporomandibular joint. However, palpation of the masticatory muscles revealed tenderness in her left deep masseter and temporalis muscles.

The past medical history documented that she began to experience significant headaches about five years ago. Her attacks usually began with a throbbing sensation in the left eye and nose. Sleep often provided better relief than medications. She denied nausea or vomiting associated with these attacks, but experienced photophobia and phonophobia during attacks. The patient reported that her headache episodes occurred monthly, lasting about 2-3 days. About 2 months prior to that, the pain became continuous and spread to involve the ipsilateral facial region. The intensity, duration, and frequency of the pain episodes, as well as the associated symptoms were consistent with the migraine headache diagnostic criteria of the ICHD-II.

A preliminary diagnosis of myalgia of left masticatory muscles was made, but a second important consideration was physician assessment as to the presence of a headache disorder or other intracranial or orofacial pathology. Accordingly, the patient was given home care instructions for treatment of her myalgia including moist heat application and jaw stretching exercises, and she was referred to a neurologist for the further evaluation of her headache and facial pain complaints. Subsequently she was diagnosed as having migraine without aura and her physician prescribed sumatriptan (50 mg, p.r.n.) and nortriptyline (10-30mg, h.s.). Both the headaches and the jaw pain gradually resolved within a few days.

DISCUSSION

Migraine is defined as an idiopathic recurring headache disorder with attacks lasting 4 to 72 hours. It affects approximately 16% of the population. The male to female ratio is 1:3 [2]. Migraine often develops in the first three decades of life. The distinctive feature of the pain is its throbbing quality. The IHS headache classification committee classifies migraine into two categories: 1) migraine without aura, previously called common migraine, 2) migraine with aura, previously called classic migraine [1]. The migraine aura is a neurosensory disturbance that often includes bilateral visual changes which may precede the headache or be associated with the aura. The IHS offers the specific diagnostic criteria for migraine without aura [1] (Table 1).

Table 1 Diagnostic criteria of migraine without aura

A.	At least 5 attacks fulfilling criteria B-D
B.	Headache attacks lasting 4-72 hours (untreated or unsuccessfully treated)
C.	Headache has at least two of the following characteristics: <ol style="list-style-type: none"> 1. unilateral location 2. pulsating quality 3. moderate or severe pain intensity 4. aggravation by or causing avoidance of routine physical activity (eg, walking or climbing stairs)
D.	During headache at least one of the following: <ol style="list-style-type: none"> 1. nausea and/or vomiting 2. photophobia and phonophobia
E.	Not attributed to another disorder

The vast majority of migraine patients complain of nausea, which is accompanied by vomiting in half of the patients. Sensory disturbances such as photophobia (light sensitivity) and phonophobia (a fear of loud sounds) are common and both of these criteria must be present if used for the diagnosis of migraine. Another important characteristic of migraine is that routine physical activity, or even head movement, often aggravates the headache [3]. Migraine sufferers often withdraw to a quiet, darkened room and attempt to sleep [3]. In this case, the patient did not report nausea but did experience photophobia and phonophobia during attacks. The patient also reported that sleep often provided sufficient relief of her symptoms.

The dentist may be the first doctor that a patient consults for pain in the face. It is essential that the dentist is knowledgeable in the differential diagnosis of orofacial pain, primarily to assess if it is a dental, TMD or an alternative problem requiring a dental specialist or medical consultation. Additional imaging of the maxillofacial or intracranial structures may be indicated (CT Scan or MRI) when the pain is associated with:

- no past history of headache
- sudden development of severe headaches
- headaches with other serious symptoms, such as a loss of control, seizure, or a change in speech or alertness.

In this particular case, the patient reported that her headache episodes started about five years ago, occurred monthly, and lasted about 2-3 days. However, this headache history was not provided to her dentist at her initial presentation. It has been reported that TMD pain prevalence in headache population was 56.1% [4]. Subjects who had TMD pain were more likely to report headache [5]. However, patients with a TMD problem may not include their headache problem when providing their history.

Migraine and other headaches are more commonly triggered by head and neck pains such as those associated with TMD [6]. However, migraine headache may be the initial problem with orofacial pain as an associated symptom. The dentist should treat the TMD symptoms as part of pain management if the migraine medication from the physician is not resolving the facial pain. Continued contact with the treating physician is essential. The headache and facial pain may become chronic; and centralized within the nervous system and thus become more difficult to treat. Decreasing and controlling the orofacial triggers may decrease the frequency and/or intensity of the headaches. The psychological component of headache and pain may necessitate the recommendation for biofeedback and or positive changes. Therefore, many patients with migraine or tension type headaches have significant relief when jaw pain or other head or neck pain is reduced [6]. Headache, TMD and cervical disorders, are independent factors but may aggravate or perpetuate each other [7, 8].

CONCLUSION

Patients with migraine headache may report other comorbid pain complaints such as toothache, jaw pain and joint pain to their dentist. This could lead to a misdiagnosis and unnecessary dental or TMD treatment until the correct diagnosis is made [9, 10]. A dentist who is skilled in managing orofacial pain should be knowledgeable about the potential inter-relationship of migraine and facial pain and able to obtain medical consultation to further clarify a diagnosis. Most importantly, a medical diagnosis may be other than headache (e.g. brain tumor). A delay in

diagnosis could result in continuing uncomfortable pain for a patient or possibly life-threatening disease.

Conflicts of Interest

Authors declare none.

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