

# HOT TOWEL MASSAGE RELIEVED A 7 YEARS OROFACIAL PAIN – A CASE REPORT

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Case Report

## ABSTRACT

**Introduction:** Diagnosis and management of orofacial pain of non-odontogenic origin has always been a challenge to dentists. Inaccurate diagnosis would result in delay of treatment and in cases of orofacial pain, affects patient's quality of life. Temporomandibular pain dysfunction syndrome is the most common temporomandibular disorder that presents to dental clinics. Trigeminal neuralgia, also known as *tic douloureux* is a relatively rare condition that causes electric shock-like pain when the trigger zone is stimulated by triggering factor. **Case report:** A case of temporomandibular pain dysfunction syndrome in a 52 years old Indian lady that was managed as trigeminal neuralgia for 7 years is presented. **Conclusion:** The aim of this case report is to make dentists aware of the signs and symptoms of different orofacial pain, so that early and accurate diagnosis can be made and appropriate treatment instituted.

Key words: orofacial pain, temporomandibular pain dysfunction syndrome, trigeminal neuralgia

## INTRODUCTION

Chronic orofacial pain can be a frustration to both the clinician and patient. Dentists are often challenged with the task of diagnosing odontogenic-like pain originating from the various anatomical structures on facial region. They have to aware that oral cavity is not the source of all orofacial pain but only as the site of pain (1). It is important for dentists to be aware of the signs and symptoms of different orofacial pain so that unnecessary invasive investigation and treatment can be prevented.

The lack of diagnostic laboratory tests in majority of cases of orofacial pain has further results in delay in achieving accurate diagnosis. In many situations, the key of differentiating source versus site of orofacial pain depends heavily on thorough history taking, comprehensive clinical examination and sound knowledge of clinical epidemiology (2-3). Failure in doing so can lead to misdiagnosis, unnecessary, inappropriate and irreversible treatment.

The purpose of this case report is to remind dentists of the signs and symptoms of temporomandibular pain dysfunction syndrome (TMJPD) and trigeminal neuralgia so that accurate diagnosis can be made and appropriate treatment instituted without delay.

M.S. Ma

*Dental Specialist Polyclinic,  
Tuanku Mizan Armed Forces Hospital  
E-mail: drliana@gmail.com  
Tel: +6012 399 0925  
Fax: 603 4145 4242*

*Corresponding author: Dr. Mei Siang Ma*

## CASE REPORT

A 52 year old Indian lady came to the outpatient department of Dental Faculty, National University of Malaysia, Kuala Lumpur in April 2012 with complaint of pain on the upper left quadrant of 7 years duration. She claimed that the pain was throbbing, hurting and annoying in nature. It normally started in the morning in left eye region and spread to the left temporal and infraorbital area lasting for hours. It was worse when eating hard food and relieved by rest and taking pain killer. The pain did not disturb her sleep and sometimes disappeared for days. She had been to different doctors and dentists over the years, and different medications, mainly pain killers and antibiotics had been given. She claimed that none of the drugs eased the pain totally. However, the pain did not get worse.

She was last referred to the Neurology Department of a government hospital and was prescribed with gabapentin 600mg, synflex 500mg and tramadol 50mg.

The patient denied any history of trauma to the facial region. She suffered from occasional headaches and back pain and did not sleep well because fear of the pain. She was otherwise fit and healthy and not taking any other medications.

Patient only visited her dentist when needed. She was neither a smoker nor a betel nut chewer. She was a full time housewife with 4 grown up children. The husband had passed away 6 years ago after being bed ridden for about 2 years due to a motor vehicle accident.

On examination, patient was a medium sized Indian lady with facial asymmetry. The left infraorbital area appeared bigger than the right. None of the lymph nodes were palpable. There is no limitation of mouth opening and the mandible had a normal range of movement. Palpation of left temporomandibular joint revealed tenderness but there was no clicks or crepitus on mouth opening and closing.

Intraorally, the buccal mucosa, gingiva and tongue were patchily pigmented. The upper left second premolar was extracted few years ago because patient

thought it was the cause of the pain. The remaining upper posterior teeth were caries free; none of the teeth were tender to percussion. There were no signs of attrition on the teeth; neither were signs of clenching on the buccal mucosa. Three sets of muscles of mastication, i.e. the temporalis, lateral pterygoid and medial pterygoid on the left side were tender to palpation. The score of pain at verbal rating scale was 9 out of 10.

Dental panoramic tomography was taken on the same day to exclude causes of orofacial pain of hard tissue origin. No abnormality was detected. Both condyles appeared normal.

A diagnosis of TMJPDS was made based on the clinical examination and history. Other non-odontogenic orofacial pain that might occur in that area of face, namely atypical facial pain, migraine and sinusitis were taken into consideration. Patient management including reassurance in which she was explained of the possible etiologies of the condition was mentioned. She was told that her teeth are not supposed to be in contact except when eating, swallowing and speaking. She was advised not to clench her teeth whenever she is aware of it. In addition, she was also advised to stop taking all the medication that was given earlier except tramadol if in pain. Patient was asked to have hot towel massage on the pain area for 15 minutes, 3 times a day and avoid hard food and wide mouth opening.

On one week review, patient appeared more cheerful and upon questioning, she had not taken any medications that were given earlier, only hot towel massage was used as advised. The score of pain on verbal rating scale has dropped to 4. On examination, only the lateral pterygoid muscle was tender to palpation but it was not as tender as before. She was advised to continue with hot towel massage and tramadol was prescribed to be taken when necessary.

On one month review, pain had further decreased to 2 on verbal rating scale, but the lateral pterygoid muscle was still tender to palpation. However, patient had not taken any medication to control the pain since the first visit. The face now appeared symmetrical. The same advice was given as in the last visit.

On two months review, patient claimed that now pain only occurs when chewing hard food. She only does hot towel massage when there is pain. All muscles of mastication were not tender to palpation and she

had normal width of mouth opening. Patient was advised to carry on with hot towel massage when necessary.

Six months after the patient's first visit, she was asymptomatic and none of the muscles of mastication were tender to palpation.

Patient's complaint and response to treatment are summarized in Table 1.

## DISCUSSION

Differential diagnosis of orofacial pain can be divided into odontogenic and non-odontogenic origins. Odontogenic origin can be broadly divided into pulpitis, periodontitis and cracked tooth syndrome; whereas non-odontogenic origin could originate from a wide variety of disorders, including but not limited to tumours, infection and abnormalities of anatomical structure on the facial region, such as: salivary glands, sinuses, ears, temporomandibular joint, nose, eyes, and vascular. In addition, pain on orofacial region could be psychogenic in origin or referred from other parts of the body such as cardiac or intracranial structure.

Temporomandibular joint is a hinge and gliding joint, consisting of condylar head of the mandible and glenoid fossa of the skull. This joint is unique due to the presence of a fibrocartilage articular disc interposed between (4). In addition, the articulation between the the upper and lower teeth and the related muscle of mastication further contributes to its complexity.

TMJPDS, together with internal joint derangement and degenerative joint disease are conditions that grouped under the umbrella of temporomandibular disorder. Patient's common complaint of limitation of mouth opening, joint clicking and pain on the preauricular region are universal to these temporomandibular disorders. It was Costen in 1934 who first described the nature of TMJPDS (5). Although much research has been done, there is still much to be understood regarding the exact etiology and treatment of temporo-mandibular disorder (6).

TMJPDS have a multifactorial etiology, including local mechanical factors, psychological and comorbidities (7). Prolonged muscle contraction such as in parafunction habit and muscle hyperactivity plays an important role (2). It is seen more common in

**Table 1.** Comparison of patient's pain and muscle tenderness on first visit and after treatment

Time	Pain on verbal rating score	Muscle that are tender to palpation	Width of mouth opening
First visit	9	temporalis, medial pterygoid, lateral pterygoid	normal
One week review	4	lateral pterygoid	normal
One month review	2	lateral pterygoid	normal
Two months review	1	none	normal
Six months review	0	none	normal

females than males. The pain of TMJPDS may be worse in the morning, in the afternoon, during period of stress or in cold weather. It can be uni or bilateral and can spread to the temporal area or the body of mandible (4). Patient commonly complaint of frequent headaches with history of facial trauma, teeth grinding, sleep problems, pain elsewhere in the body and high levels of psychological distress (7). The most common complains of patients with TMJPDS are pain in the preauricular region, limitation mouth opening and noises, either clicking or crepitus from the joint when in function (4,6). However, absence of one of these symptoms does not exclude the diagnosis (6). Patient presented in this case although did not presented with the cardinal triad symptoms of TMJPDS, the sign of tenderness of three of the muscle of mastication on palpation excludes it from other orofacial pain.

Treatment for TMJPDS is targeted at breaking the cycle of muscle hyperactivity, pain, more muscle hyperactivity and so forth (4). The treatment options includes, but not limited to: explanation and reassurance, counselling (make the patient aware that muscle tension contributes to symptoms), hot towel massage, transcutaneous electrical nerve stimulation (TENS), bite plate appliance/splint, medication such as muscle relaxant, analgesic and anti-depressants.

Hyperactivity of temporalis or masseter muscle is easily relieved with heat massage but lateral pterygoid is more difficult to assess, hence more difficult to relieve (4). This is demonstrated in our present case whereby after one week of hot towel massage, temporalis and masseter muscle were no longer tender to palpation but lateral pterygoids took 2 months to be pain free. Patient's facial asymmetry is probably due to hypertrophy of muscle of mastication which turned normal when the muscle hyperactivity cycle is stopped.

However, one must keep in mind that regardless of the type of treatment provided; about 80% of patients with TMJPDS get better suggesting the possibility of placebo effect of treatment. However, at least 20% of the patients do not get better or may be non-responsive to treatment due to psychosocial factors (8). Hence, non-surgical management should be the primary approach for the management of myofascial pain (9). From author's experience, treatment of patients with TMJPDS varies from one to the other. Treatment that works well for one patient might not work for the other with similar complaint and clinical presentation. Hence, several treatment options may need to be explored in finding out which is the best for the patient.

Gabapentin, which was prescribed to the patient from the neurological department, is used either alone or in combination with other medications to prevent and control seizures and to control the pain in cases of post-herpetic neuralgia. It may also be used to treat other nerve pain conditions such as diabetic neuropathy, and peripheral neuropathy. In cases of orofacial pain, it is used for treatment of trigeminal neuralgia if carbamazepine is ineffective. Therefore it

is possible that the previous physician was treating the patient for trigeminal neuralgia.

Trigeminal neuralgia has the characteristic features of electric-shock like pain, intermittent temporal pattern, unilateral and lasts from a few seconds to two minutes, within the distribution of trigeminal nerve with maxillary branch affected most commonly. It has a trigger point, and only occurs when the stimulating factor stimulates the trigger point. The stimulating factor can be any routine daily activity, such as washing face, opening mouth, brushing teeth or eating. The pain is excruciating, and frequently described by patients as stabbing or throbbing in nature. However, it does not disturb sleep and patient is pain free between episodes. The pain that was suffered by our patient did not have any of the characteristic features mentioned except throbbing pain. However, the pain lasts for hours which are uncommon with trigeminal neuralgia.

Difference in the quality of pain described for trigeminal neuralgia (throbbing and excruciating) and musculoskeletal pain (mild to moderate aching pain) should assist the clinician in making the correct diagnosis (3). In some cases of trigeminal neuralgia, the pain does not fit exactly into the criteria mentioned above. This is called atypical or mixed trigeminal neuralgia with presence of persistent ache between paroxysms or mild sensory loss (10). The etiology of most cases of trigeminal neuralgia is idiopathic although some are associated with tumour and vascular compression (11). In young patients with symptoms of trigeminal neuralgia, multiple sclerosis needs to be excluded. Table 2 compares the signs and symptoms of the differential diagnosis of the present case.

Medication is often the first line of treatment with trigeminal neuralgia. Although trigeminal neuralgia is not life threatening, the pain and its effect on life is distressing.

Carbamazepine is the treatment of choice for trigeminal neuralgia. If pain relief is incomplete, a second drug such as phenytoin can be added. Failure of medical therapy should prompt the clinician to review the diagnosis (12). Surgical option is considered if pain control cannot be achieved with drugs. However, even with surgery, pain may not be permanently eliminated and recurrence is unpredictable (10).

## CONCLUSION

Dentists should be competent to differentiate the signs and symptoms of different orofacial pain so that an accurate diagnosis is established as early as possible and appropriate treatment or referral is instituted to prevent unnecessary investigation and treatment, and patient's quality of life is not affected. Clinicians should rule out all possible diagnosis before deciding on treatment options as many other conditions can also present as pain in the orofacial region.

**Table 2.** Comparison of signs and symptoms of non-odontogenic orofacial pain

Feature	Trigeminal neuralgia	TMJPDS	Atypical facial pain	Migraine	Sinusitis
<b>Gender</b>	female	female	female	female	male and female
<b>Age (years)</b>	more than 40 years	20-30	middle age	adolescence	any age
<b>Pain</b>					
Type	lancinating, stabbing, burning	aching (mild to moderate)	throbbing, deep, diffuse, boring <sup>13</sup>	throbbing	aching, pressure across the midface
Severity	worst pain in the world	worst in the morning or evening		debilitating (moderate to severe)	dull, irritating
Location	division of trigeminal nerve, unilateral	preauricular, uni or bilateral	deep non-muscular areas of face, uni or bilateral, does not follow nerve distribution <sup>13</sup>	mostly unilateral	Uni or bilateral; upper posterior teeth and/or maxilla
Duration of episode	few seconds to 2 minutes	last for few minutes	Continuous; can have pain free periods	4 to 72 hours function	on palpation or
<b>Provoking and associated factors</b>	trigger factors (daily activities, for example talking, shaving or eating) at trigger zone	no specific triggering factors; associated with limitation of mouth opening, anxiety, parafunction <sup>13</sup>	no specific triggering factors; associated with anxiety, depression, other bodily pain <sup>13</sup>	frequently on arising in the morning with preceding visual, sensory, motor or speech disturbance; associated with photophobia, phonophobia, osmophobia and nausea; seek dark, quiet room	worst with head movement; history of recent fever and blocked nose; associated teeth are tender to percussion; usually more than one tooth is affected

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