



MYOFACIAL PAIN DYSFUNCTION SYNDROME – A REVIEW.

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ABSTRACT

Myofascial Pain Dysfunction Syndrome is a heterogeneous group of signs and symptoms that affect the jaw joint and/or the chewing musculature. Myofascial pain syndrome (MPS) is defined as pain that originates from myofascial trigger points in skeletal muscle. It is prevalent in regional musculoskeletal pain syndromes, either alone or in combination with other pain generators like Temporomandibular disorders (TMD). The appropriate evaluation and management of myofascial pain is an important part of musculoskeletal rehabilitation, and regional axial and limb pain syndromes. Currently a multifactorial theory on MPDS has received a great support among the scientific community. Myofascial Pain is the most common form of TMD, affecting principally women in reproductive age. This article gives a deeper insight into the pathogenesis, diagnosis and management of MPDS which will help clinicians to better understand this perplexing and mystifying condition.

KEYWORDS : MPDS, TMD, Trigger point, muscle spasm.

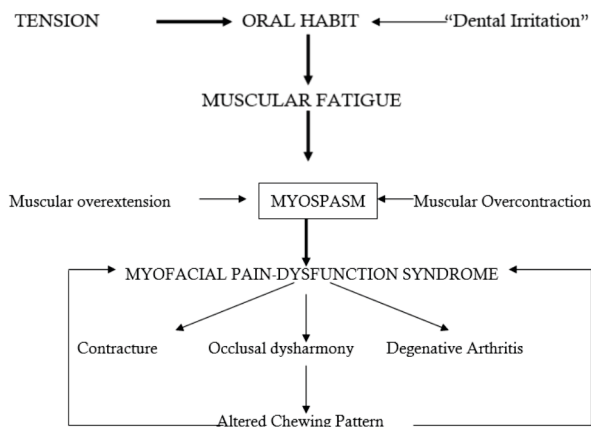
Introduction:

Facial pain and its diagnosis have always posed a dilemma for the clinicians. The complex anatomy of the region compounded with the variability of symptoms involved, present a challenging situation during the management of orofacial pain. With ever increasing refinements in diagnostic and treatment modalities, dramatic advances have been made in understanding the causes of facial pain related to tmj and surrounding musculature. Still the mystery exists regarding the precise diagnosis and treatment of facial pain.

Myofacial pain-dysfunction syndrome is a psycho physiologic disease that primarily involves the muscles of mastication. The condition is characterized by dull, aching, radiating pain that may become acute during use of the jaw, and mandibular dysfunction that generally involves a limitation of opening⁽¹⁾.

Frequently, myofacial pain is overlooked as a common cause of chronic pain because of frequent association with joint dysfunction and other pain disorders⁽²⁾.

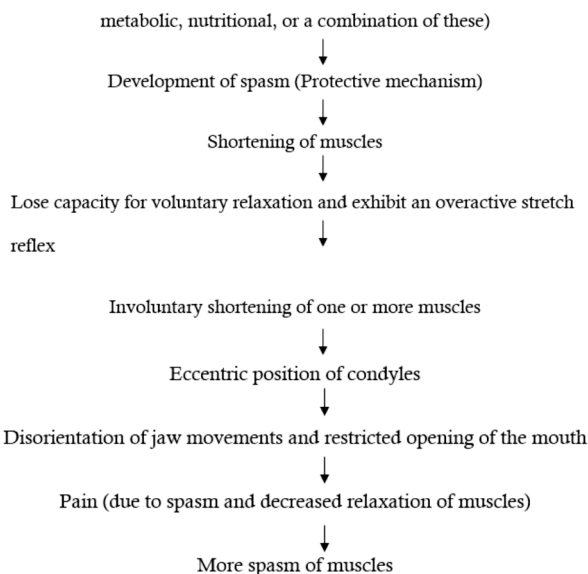
Etiology:



PATHOPHYSIOLOGY OF MPD SYNDROME

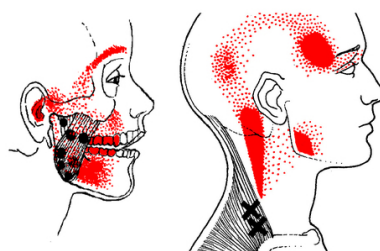
As explained by Travell the pathophysiology of this stress disorder of skeletal muscles may be outlined as follows⁽³⁾:

Noxious stimulation (due to such as mechanical, emotional, infectious,



It has been observed that whenever the pain associated with skeletal muscle spasm is very severe, it is referred to a site from the muscle that is its source. The pain is referred from a small area of hypersensitivity located within the muscle or the fascia. These areas are termed as Trigger zones⁽⁴⁾.

The response of muscles against the injury tends to gain momentum and results in a self representing cycle of spasm-pain-spasm which limits the movements and result in fibrosis of tissues.



Clinical Features

Incidence:

Women are affected by MPD syndrome more frequently than men,

with the ratio ranging from 3:1 to 5:1. The greatest incidence appears to be in the 20 to 40 years age group⁽⁵⁾.

The patients suffering from MPD syndrome usually present with complaint of:

- Pain in a zone of reference (most important problem that causes patients to seek treatment).
- Trigger points in muscles which cause pain on stimulation.
- Taut muscle band.
- Limited jaw opening.
- Associated symptoms.
- Presence of contributing factors for onset of pain.
- No tenderness in temporomandibular joint.

Mode of Onset

The patients suffering from MPD syndrome may complain of⁽⁶⁾:

- i. Sudden onset of pain and trismus, characterized by forcible contraction of muscle during biting on a hard object, overstretching of jaws, difficult tooth extraction etc.
- ii. Gradual onset characterized by appearance of abnormal sounds in the joint followed by pain and limited jaw motion. Major precipitating factor may be strain of muscles due to occlusal imbalance or asymmetry of face.
- iii. May be associated with oral foci of infection, respiratory infection, or acute emotional stress.

Trigger points / Trigger zones / Trigger areas⁽⁷⁾

- Myofascial pain is characterized by pain referred from few hypersensitive areas termed as trigger areas / zones. A trigger point is defined as a localized tender area in taut band of skeletal muscle, tendon or ligaments.
- Points occur frequently in head, neck, shoulder, lower back.
- Any pressure on these areas may initiate pain referred to distant areas (called as zone of reference).
- Trigger areas develop due to direct / indirect trauma (parafunctional habits) to muscles, due to weakening of muscles (nutritional disturbances, lack of exercise, structural disharmony etc.).
- Trigger points range from 2.5mm in diameter and may be active or latent.
- Palpating trigger points with deep finger pressure, elicits alteration in pain, in the zone of reference or causes radiation of pain towards the zone of reference.
- Patients behavioural reaction to firm palpation of trigger points is a distinguishing characteristic of myofascial pain and is termed a positive 'jump sign'. This reaction may include:
 - a. Withdrawal of head.
 - b. Wrinkling of face or forehead and desensation of skin.

In locating an active trigger point, jump sign should be elicited.

Treatment of MPD syndrome⁽⁸⁾

The treatment of MPD syndrome should be geared towards complete management rather than symptomatic cure. Several treatment modalities have been recommended for MPD syndrome.

1. Initial explanation of the problem

The patients should be explained about the problem and its probable etiology. The psychophysiological factor shouldn't be stressed while explaining the problem because patient may not accept it. Initial discussion should deal with muscle fatigue, spasm and explanation about the condition.

2. Therapeutic modalities of treatment

a. Therapy at home

Intake of soft diet with small cut pieces. Jaw motion should be limited and wide opening should be avoided. Parafunctional habits such as clenching, grinding should be avoided (although patients are unaware of these habits, they should be instructed to check for clenching). Other habits such as fingernail biting, lip biting etc. should be avoided.

Intermediate moist heat application for half an hour twice daily. Massage of the affected area using moderate kneading motion. This helps in return of venous blood, lymph and catabolites and reduces muscle pain and spasm.

b. Short term medication

- Muscle relaxants such as, Benzodiazepines (Diazepam), Meprobamate and analgesics such as Aspirin, Acetaminophen, Propoxyphene is effective to reduce the pain.
- Antidepressant drugs (for patients with long standing MPD syndrome and proven depression). Tricyclic antidepressants 25mg – 75mg at bed time

c. Splint therapy

If previously described forms of therapy are not successful or there is history of tooth clenching etc., splint therapy should be considered.

According to **Kawazoe**, 4 types of splints are used:

- i. Stabilization splint.
- ii. Relaxation splint.
- iii. Resilient splint.
- iv. Pivoting splint.

Hawley's type upper anterior splint is most effective because it prevents occlusion of posterior teeth and thereby prevents parafunctional activity. It is worn at night and 5-6 hours of day. Shouldn't be worn continuously as it results in supraeruption of posterior teeth. Platform of the splint should be flat.

d. Physical therapy

- i) Ultrasound produces vibrations within the tissue that cause particle collision and release of energy. This results in production of heat and vibration which reduces the muscle tension and increase in tissue elasticity. Moreover there is mild analgesic and anti-inflammatory action. Lasts for 10-15 minutes, given twice daily for 1-2 weeks. Stimulation of muscle increases circulation, reduces pain and spasm and increases resistance to fatigue.
- iii) Cryotherapy (cold therapy)

Reduces tissue temperature, causes local analgesia and has anti-inflammatory effects and diminishes muscle spasm. Cooling effect also creates vasoconstriction, reduces myoneural transmission and neuromuscular activity. Vapour coolant spray (such as ethyl chloride or fluorimethane) and ice packs can be useful in acute phases of MPD syndrome.

e. Relaxation therapy:

Because MPD syndrome is basically a problem related to increased muscle tension and spasm, any technique designed to induce muscle relaxation should be helpful. Among the modalities that have proven to be effective are biofeedback, conditioned relaxation and hypnosis.

i) Biofeedback

EMG biofeedback involves supplying the patient with visual or auditory information about the moment to moment contractile status of muscle being monitored. The patient then concentrates on relaxing the muscle and is reflected by reduction in level of graphic representation or audible sound.

The biofeedback is used for two 30-minute sessions each week for 6 weeks.

ii) Conditioned relaxation:

Similar to biofeedback in its end results but differs in that the patients do not have the benefit of a feedback indicator.

Summary

The MPD syndrome is a psycho physiologically altered condition involving the muscles of mastication and cervical group of muscles. The condition characterized by dull aching, radiating pain often

results in muscle spasm and restricted movements. An accurate diagnosis is accomplished by careful history taking and thorough examination. The application of proper therapy is related to the understanding that MPD syndrome is a stress induced psychophysiological disease originating in muscles and not a temporomandibular joint disorder. Thus, the therapy should be directed towards reducing stress, rehabilitating the occlusion and relaxing the muscles to alleviate the condition.

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