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A Case study on Temporomandibular Dysfunction

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Abstract: ***Temporomandibular Joint dysfunction is characterized by spontaneous pain and jaw function-induced pain in the joint and muscles of mastication of the TMJ because of the interplay between the muscles and joints, a problem with either one can lead to stiffness, headaches, ear pain, malocclusion, clicking sounds, or trismus. It is a common but misunderstood muscular pain disorder involving pain referred from small, tender trigger points within myofascial structures in or distant from the area of pain[1]. The disorder and the resultant dysfunction can result in significant pain and impairment. Additionally, TM joint dysfunctions are known to be associated with imbalances in the whole body, especially neck and shoulder. Misdiagnosis or inadequate management of this disorder after onset may lead to development of a complex chronic pain syndrome and can be very distressing for the patient. The case study presented below highlights the impact of TM joint dysfunction on neck and shoulder and emphasizes the role of Physiotherapy in the management of TM joint dysfunction.***

Keywords: Temporomandibular joint, neck, shoulder

1. Introduction

Temporomandibular joint dysfunction (**TMD**, **TMJD**) is an umbrella term covering pain and dysfunction of the muscles of mastication (the muscles that move the jaw) and the temporomandibular joints (the joints which connect the mandible to the skull). The most important feature is pain, followed by restricted mandibular movement,[2] and noises from the temporomandibular joints (TMJ) during jaw movement. Although TMD is not life-threatening, it can be detrimental to quality of life,[3] because the symptoms can become chronic and difficult to manage.

TMD is a symptom complex rather than a single condition, and it is thought to be caused by multiple factors.[2][3] However, these factors are poorly understood,[4] and there is disagreement as to their relative importance. There are many treatments available,[5] although there is a general lack of evidence for any treatment in TMD, and no widely accepted treatment protocol. Common treatments include provision of occlusal splints, psychosocial interventions like cognitive behavioral therapy, and pain medication or others. Most sources agree that no irreversible treatment should be carried out for TMD.[6]The role of Physical Therapy in treatment of temporomandibular joint disorders is less explored and related to symptomatic relief.

Evidence suggests that TMD are commonly associated with other conditions of the head and neck region, including cervical spine disorders and headache. This association of TM joint with other body parts makes it a complex area for treatment.

2. Case Report

We would like to present a case of 23 year old male patient, IT professional, who reported to the department of Physiotherapy, MGM Hospital, with complains of difficulty in talking for more than 2-3 minutes, Chewing and singing since 7-8 months associated with heaviness in neck muscles on right side, anteriorly. The symptoms started after removal of impacted teeth on right side 4 months back. Patient had been to Dentist, ENT surgeon and orthopedic surgeon for the persistent symptoms but had no relief. He was found to have trigger points in right Sternocleidomastoid for which he was even given a steroid injection. Still the symptoms were found to be persistent. Hence the patient was then referred for the physiotherapy management.

On examination, patient was found to have reduced mouth opening and lateral deviations of the mouth on both sides, right more restricted than left. TM joint mobility was reduced on the right side. Patient had trigger points in right Sternocleidomastoid, Scalene Anterior and Posterior, Levator Scapulae and Pectoralis Major and Minor.Patient also gave complains of feeling of tiredness in right shoulder even after carrying his laptop bag.

After thorough assessment, patient was given mobilization of TM joint for 3 sessions, in a set of 3 for 15 oscillations each, to improve TM joint mobility. He was advised to perform mouth opening exercises along with Right and Left deviations and also to chew a chewing gum to improve the muscles of mastication. After 3 sessions, his mouth opening and deviations to either side improved significantly, he could talk for 10 minutes at a stretch and also his chewing ability had improved. He still complained of heaviness in neck and easy fatigability of right shoulder.

The patient was then put on neck, shoulder and scapular muscle strengthening and endurance training along with release of all the trigger points. Specific muscles worked upon were Longus Colli, Semispinalis, Middle and Lower Trapezius, Serratus Anterior and Subscapularis. Active Inhibitory Restabilization was given to Sternocleidomastoid, Scalene Anterior and Posterior, Pectoralis major and minor and Levator Scapulae. This programme was continued for 2 weeks on alternate day basis and then the patient was put on home programme for improving the strength and endurance of neck and shoulder girdle.

Patient was called for a follow-up 6 weeks later. His chewing and talking ability was comparable to his age matched individuals, had significantly improved mouth opening and did not complain of any fatigue sensation in his right shoulder. The trigger points had also subsided. Patient

was advised to continue the exercise regime for 4 more weeks, on alternate day basis for maintenance. He was hesitant to try singing but assured that he would try.

3. Discussion

TMD are musculoskeletal disorders needing a multidisciplinary effort to manage with other professionals (e.g., neurologist, laryngologist, and psychiatrist) [7]. Appropriate management of temporomandibular disorders (TMD) requires an understanding of the underlying dysfunction associated with the temporomandibular joint (TMJ) and surrounding structures. Physical therapy is the preferred conservative management approach for TMD. Physical therapists are professionally well-positioned to step into the void and provide clinical services for patients with TMD. Clinicians should utilize examination findings to design rehabilitation programs that focus on addressing patient-specific impairments. Potentially appropriate plan of care components include joint and soft tissue mobilization trigger point dry needling, friction massage, therapeutic exercise, patient education, modalities, and outside referral. [8] The case emphasizes importance of holistic approach in management of this complex disorder to achieve optimum results. According to currently prevailing theories, temporomandibular dysfunction is considered to be associated with imbalance of the whole body [9]. In addition, the body as a whole operates on the principle of compensation, when it comes to disturbances in the upper quarter, such as increased muscle tension; this will lead to compensatory changes within the muscle tension in the spinal region so as to force the correct position/posture. These adaptive changes occur at all levels, within tolerance of the body [10, 11]. When the body capacity to compensate for the pathological changes progressing in given areas is exceeded, however, imbalance sets in and pathological symptoms will appear. Each individual, obviously, has a unique compensation limit beyond which such symptoms are triggered off. Hence the patient developed neck and shoulder symptoms as a compensatory process. And so it becomes important to address neck and shoulder dysfunctions as and when identified along with treatment of TMD.

4. Conflict of interest

The content provided in the article is the original work of the author

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