Original Article

Etiology Diagnosis And Treatment Modalities Used In The Treatment Of Temporomandibular Disorders : A Review

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Abstract

Temporomandibular disorders involves group of musculoskeletal condition in which pain of the masticatory muscles, dysfunction of the masticatory muscle occur along with pain in the temporomandibular joint as well as dysfunction of the temporomandibular joint along with associated structures occur. it is also a one of the most common type of pain occurring in the oro facial region. In temporomandibular disorders patient complaints of limited jaw movements as well as pain during the movement of the jaw which is most of the time associated with the sound in the temporomandibular joint during the movement of the jaw.

Keywords: Temporomandibular disorders, limited jaw movement, pain in temporomandibular jaw.

INTRODUCTION:

Temporomandibular disorders are found to be the second most common musculo skeletal condition which results in pain in the oro facial region. The most common feature of the temporomandibular disorder is the pain in the facial region and in the pre auricular area along with limited jaw movements and noise from the temporomandibular joint during the jaw movement. The most common type of pain related disorders associated with temporomandibular disorders are headache, myalgia, arthralgia[1,2,3].

Pain which is chronically associated due to temporomandibular disorder are the prime reason for the patient seeking treatment. On the other hand temporomandibular disorders are also associated with impaired general health of the patient, depression, as well as other psychological disabilities that might have the tendency of affecting patient well being as well as quality of life of the patient.

The different signs and symptoms which are associated with the temporomanidibular disorders can be acute or can be chronic or can be recurrent. The disorders of temporomandibular jaw have a tendency of affecting individuals quality of life. Although the disorders of temporomandibular joint can rarely be life threating. Various studies stated that 3 to 7 percent of the population affected from temporomandibular disorders requires treatment for the same [4,5,6] .

ETIOLOGY OF THE TEMPOROMANDIBULAR DISORDER:

The exact cause of temporomandibular disorder is not known as it is stated that the cause of the same is of multifactorial in most of the cases. There are predisposing factors which increases the risk of development of temporomandibular disorders, like trauma to the joint, (direct trauma which includes direct blow to the joint or direct fall and indirect trauma includes whiplash injuries) micro trauma to the joint (which can be caused by para functional habits like clenching of the teeth), stress is also an associating factors in the development of temporomandibular disorder as it might results in disturbed pattern of the sleep of the individual and increase chances of development of nocturnal bruxism.

Bruxism during sleep can be a predisposing factor in the development of the temporomandibular disorder. Bruxism results in hyper activation of the muscles of mastication which results in excessive loading of the temporomandibular joint.
Whiplash injuries are also stated as precipitating factors in the development of temporomandibular disorder. In literature there is very less evidence is found that a non contact injury can result in development of temporomandibular disorder. however on the other hand most of the patient complaints of pain and dysfunction in the temporomandibualr joint area after a whiplash injury [7,8,9,11].

VARIOUS SIGNS AND SYMPTOMS OF TEMPOROMANDIBULAR DISORDERS ARE AS FOLLOWS:

- Patient complaints of dysfunction in the TMJ area
- Patient complaints of low intensity pain in the region of face , head and TMJ area .
- Patient complaints of limited opening of the temporomandibular joint .
- Patient complaints of locking of the mandible .
- Patient complaints of popping sound in the joint area.
- Patient complaints of pain in shoulder as well as in neck area radiating from the joint region .
- Patient complaints of tinnitus , hearing problem .
- Patient complaints of abnormal wear of the tooth surface , teeth not contacting properly [9 -12] .

DIFFERENT DIAGNOSTIC APPROACHES USED FOR THE DIAGNOSIS OF TEMPOROMANDIBULAR DISORDER:

- First of all thorough history of the patient should be taken which includes history taking of the patient with respect to any trauma to the joint, history related to eating habits of the patient, history related to any para functional habit like clenching of teeth, nocturnal bruxism , should be taken properly.
- Palpation of the temporomandibular joint should be done by the clinician to notice any abnormality related to the movement of the joint. clinician should look for the any misappropriate opening or closing of the joint, any deviation of the joint while closing or opening.
- Look for any type of joint pain or sound while opening or closing the joint.
- M R I is a useful modality in the diagnosis the disorder of tmj. MRI reveals hard bony tissue abnormalities along with soft tissue abnormalities of the temporomandibular joint.
- Computed tomography can be used as a diagnostic measure in the diagnosis of the temporomandibular disorder. computed tomography reveals any type of degenerative changes in the temporomandibular joint[8 -14]

TREATMENT OPTIONS FOR TEMPOROMANDIBULAR DISORDER:

The prime concern of management of temporomandibular disorder is the elimination of the pain, from which the patient is suffering from and restore the normal function of the joint.
The first step in the treatment of the tmj disorder is the self care. self care should be joined in such a way that it should meet the patient objective of treatment, primarily. self care should be thoroughly explained to the patient and this self care should be reinforced by the health care professional at each visit. in self care modality specific instructions are given to the patient such as:-

- Patient should have soft diet, avoiding having food that requires heavy masticatory forces.
- Patient avoid to chewing gum, it should avoid creating the unnecessary forces over the joint.
- Try to relax the facial muscles, with teeth apart and lips relaxed.
- Avoid the parafunctional habits like clenching of the teeth as it place extra pressure over the joint.
- Yawning should be done against the pressure to avoid the locking of the jaw.
- Heat therapy should be given over the affected joint area to reduce the inflammation and promotes healing.
- Sleeping position with side lying should be preferred.
- Exercise of the jaw should be done like opening and closing of the jaw against the finger pressure.
- Acupressure massage to the joint should be given with the help of thumb and index finger.
- Do meditation for stress reduction

MEDICATIONS:

- Non steroidal anti inflammatory drugs should be given.
- Muscle relaxants should be given like cyclobenzaprine for the relaxation of the muscles.
- Anti depressants in the low dosage are advised.

Physical therapy in which application of heat and ice is advised over the joint area , the application of heat and ice helps in reducing the pain and is beneficial in most of the patients. jaw exercises are advised in increasing the mobility of the joint. massage over the joint area helps in increasing the blood flow and ultimately helps in reducing the pain of the joint. patient should also be taught about the correct posture to avoid the neck as well as joint pain.

Trans cutaneous electric nerve stimulator is very helpful in controlling the pain.
Acupressure shows promising results in reducing the pain of the temporomandibular joint area. National institute of health stated that acupressure shows promising results in the reduction of the post operative dental pain. so Acupressure can be used as an additional modality in the treatment of tmj disorders.

Injecting local anesthesia in the joint cavity or in the zone of the pain provides relief from pain and also helps in reducing the inflammation. prosthetically occlusal splint therapy can also be used in the treatment of the temporomandibular disorders, occlusal spint is a device which is made up of acrylic either over the maxillary teeth or over the mandibular teeth, after fabrication of occlusal splint it should be balanced bilaterally before giving to the patient, so that occlusal splint distribute the forces equally.
A technique known as arthrocentesis can also be employed in which a needle is been inserted into the superior joint space and than irrigation with the help of normal saline can be done along with or without corticosteroids.

Surgery of the temporomandibular joint is advised to those patients who does not respond to the conservative treatment modalities, patient should undergo any surgical procedure only after all the attributing factors are controlled. Surgery can be done to treat the bony defect or to correct the bony architecture of the joint.

CONCLUSION:

One should have a thorough knowledge of the temporomandibular joint, normal anatomy of the joint. Before starting any treatment one should know the exact cause of the temporomandibular disorder along with the predisposing factors for the cause, the primary cause of the temporomandibular disorder should be removed [12 - 19].

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