CASE REPORT

Management of Osteoarthritic Condition of TMJ
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ABSTRACT
Temporomandibular joint disorders (TMDs) are numerous clinical conditions involving masticatory muscles or temporomandibular joint or both. TMD is considered to be the major cause of nondental pain of orofacial region. Epidemiologic studies show that about 75% of the general population has signs and symptoms of TMD but only 2 to 5% has pain as the major symptom. Of the inflammatory joint disorders comes under TMD, artritides are particularly relevant. This case report describes the effective management of a case with osteoarthritis of the right TMJ with occlusal appliance therapy and supportive therapy.

Keywords: Pain, TMJ, Inflammation, Osteoarthritis.

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INTRODUCTION
Inflammation of the articular surfaces of the joint is referred to as arthritis. The different arthritic conditions affecting temporomandibular joints (TMJs) are osteoarthritis, osteoarthrosis and polyarthritides.1-3 Of these, osteoarthritis is the most common. The precise cause of the condition is unknown, but mechanical over loading of the joint surfaces seems to play an important role. Even though this condition is not a true inflammatory response, there is deterioration of articular surfaces and their underlying bone. Osteoarthritis is considered a degenerative joint disease. The patient usually presents with unilateral joint pain and limited mouth opening. Since there is constant pain, and considerable deteriorating effect on the chewing efficiency, this condition is extremely debilitating for the affected patient. This case report explains the successful management of a male patient having osteoarthritis of right TMJ with occlusal appliance therapy using anterior repositioning splint and supportive therapy.4,5

CASE REPORT
A 49-year-old male patient reported to the TMD Clinic of Pushagiri College of Dental Sciences, Thiruvalla with pain in relation to right pre-auricular region and right ear and right side of face for the last 1 year associated with limited mouth opening and difficulty in chewing (Fig. 1). He had consulted various medical and dental professionals including a neurosurgeon, ENT specialist and maxillofacial surgeon regarding his TMJ pain. The maxillofacial surgeon attempted to manage the condition conservatively at first and recommended soft diet, analgesic and an anti-inflammatory gel for topical application. The pain did not subside, so he gave an intracapsular corticosteroid injection. Pain was relieved but recurred after 1 month. Since there was no significant improvement in the condition, the patient was referred to the TMD clinic. The patient was fearful that he had cancer and this adversely affected his mental well being.

Careful history taking revealed that he had a habit of bruxism for more than 8 years. Moreover he had a preference to chew on the right side. The patient was a bank employee and got promoted 1 year back. Since then his job had been strenuous, with more hours of work, less sleeping time and greater emotional stress. The joint pain started 8 months back and was often worsened toward the evening. He also complained of clicking in relation to right TMJ initially for 5 months followed by limited mouth opening. He had earache for last the 4 months. Due to the pain he was unable to chew even soft foods properly.

Clinical examination revealed that he had tenderness in relation to right pre-auricular region. Mouth opening was 18 mm intercinsalis. There was deflection toward the right side, on mouth opening. Acute malocclusion was present on the left side (Figs 2 and 3). Intraoral examination showed wear facets on all the teeth. OPG of the patient revealed that there was bone resorption in relation to the right condyle (Fig. 4).

The patient was diagnosed to have osteoarthritis of the right condyle. In order to decrease the mechanical...
overloading to the joint and to keep the condyle in the optimum relationship with the disk and articular fossa, an anterior repositioning splint was given (Fig. 5). Mandibular left canine was not made in contact with the splint due to its gingival condition. Later it was also made in contact after treating the same. The patient reported a tremendous relief of pain though not completely. The mouth opening was also increased to 30 mm (Fig. 6). The patient was put on soft diet and slower chewing. The patient was assured that after almost 8 to 10 months, this condition would be turned to a painless entity called osteoarthrosis. This markedly improved his attitude toward the disease.

After 8 months, the patient reported that his pain had completely subsided and that he was able to chew almost all kinds of food items. After 2 years of follow-up, the patient remains symptom free.

**DISCUSSION**

Osteoarthritis is supposed to be caused by the mechanical overloading of the joint. When the bony changes due to this noninflammatory condition of articular surfaces, are active the condition is painful and is called osteoarthritis. If the cause of the osteoarthritis is unknown, it is called primary osteoarthritis. If the precise cause can be identified, it is called secondary osteoarthritis. For example, a disk dislocation without reduction can cause osteoarthritis.\(^1\)

In the history the patient reports unilateral joint pain which is aggravated by mandibular movements. A soft end feel is usually seen unless the osteoarthritis is associated with an anteriorly dislocated disk. If the condition was
present for a sufficiently long time, crepitation can be felt. Manual loading of the joint and lateral palpation increases pain. Diagnosis is confirmed by TMJ radiographs which may reveal the evidence of structural changes in the subarticular bone of the condyle and fossa (flattening, osteophytes and erosions). Since demineralization is seen in the radiographs only after 6 months, in the early cases of osteoarthritis, radiographs may seem to be normal and may not be helpful in confirming the diagnosis.

Long-term studies of disk derangement disorders and osteoarthritis show that the majority of patients pass through three stages. The first stage is that of the phase of joint clicking and catching. In this phase pain may or may not be present. The second stage includes mandibular movement restrictions and pain. The third stage contains a phase in that there is decrease in pain but joint sounds are present. This is followed by a second phase in which return to the normal range of painless movement with a reduction of joint sounds are seen.

Since, the disorder is self-limiting there is no routine indication of aggressive treatment. Conservative treatment is surely indicated for osteoarthritic patients because this will reduce the symptoms and speed up the adaptive process.

The definitive treatment includes an attempt to decrease the mechanical overloading of the joint which may have contributed to the disorder. An effort should be made to correct the condyle disk relationship by an anterior repositioning splint, if the arthritis is secondary to disk displacement. When muscle hyperactivity is suspected, in order to decrease the loading force, splint therapy is indicated. Instructions should be given to the patient to wear the splint during sleep. Any oral habits contributing the TMJ pain is identified and discouraged. Anti-inflammatory agents and pain Killers can be prescribed to reduce inflammatory response. Thermotherapy is useful in reducing symptoms. To maintain function of the joint and to reduce myostatic or myofibrotic contraction, passive muscle exercises within painless limits are encouraged.

In this particular patient as he had a history of disk displacement, an anterior repositioning splint was given. In the first week of wearing the appliance itself, there was displacement, an anterior repositioning splint was given. In exercises within painless limits are encouraged. myostatic or myofibrotic contracture, passive muscle symptoms. To maintain function of the joint and to reduce inflammatory response. Thermotherapy is useful in reducing symptoms and speed up the adaptive process.

Osteoarthritis of TMJ is a debilitating condition for the patient. This condition can be effectively managed by supportive therapy such as splint therapy, thermotherapy and passive muscle exercises. Reassurance to the patient about the self-limiting nature of the condition will boost up the patient’s emotional status. This case report describes the successful management of a male patient with osteoarthritis of right TMJ with anterior repositioning splint therapy and other supportive therapy.

REFERENCES

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