

MANAGEMENT OF HABITUAL DISLOCATION OF TEMPOROMANDIBULAR JOINT WITH AUTOHAEMOTHERAPY

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ABSTRACT

Since January 1987 to December 1997, 102 cases of recurrent dislocation of temporomandibular joint (TMJ) were treated at Armed Forces Institute of Dentistry, Rawalpindi with pericapsular injection of autohaemotherapy. The aim of this treatment was to prevent the dislocation of TMJ by producing fibrosis in the joint cavity and reducing the opening of the mouth. Three injections (1.5 ml each) of patient's own venous blood were given pericapsularly in each joint at the interval of 5 days each. Lower jaw was immobilized with intermaxillary fixation for 15 days.

INTRODUCTION

Temporomandibular joint (TMJ) is a complex entity (Fig-1). It has lot many causes for its dislocation and so is the nomenclature and methods of treatment.¹ (Fig. 1)

The habitual dislocation of TMJ is defined as the recurrent disorder in which at the end of mouth opening the head of the condyle moves forward than the articular tubercle.² Whatever the underlying cause, with each successive dislocation further episodes tend to occur more easily.³ When the dislocation in a patient becomes more frequent and progressively worse, the condition is referred to as habitual or recurrent dislocation.¹

Some factors associated with the onset of habitual dislocation include, but are not limited to, yawning, singing, sleeping with the head resting on the forearm, manipulation of the mandible while the patient is under general anesthesia, excessive tooth abrasion, severe malocclusion, loss of dentition and trauma.^{4,5}

Signs and symptoms of acute and chronic dislocation are the same and include, inability to close the mouth, preauricular depression of the skin, excessive salivation, tense spasmatic muscles of mastication, and severe pain of the TMJ.⁶

Many treatment modalities are available for mitigation of pain and dysfunction of the habitually dislocating TMJ.² The numerous complications of surgical interventions of TMJ like ankylosis, deviation towards one side or damage to facial nerve always makes it preferable to opt for conservative treatment.⁷

The purpose of this article is to describe the autologous blood injection technique for the treatment of recurrent dislocation of the condyle and to report our experience with this minimally invasive technique.

MATERIALS AND METHODS

Materials

All the patients referred to maxillofacial department of AFID were having the chief complaints of pain

on opening and closing the mouth, difficulty in chewing and clicking sounds on wide opening of the mouth. Out of total 102 patients there were 14 officers, 60 soldiers of other ranks and 28 female (Fig-2). The average age of the patients was 27 years ranging from 25-43 years. The history of 74 patients was 3-4 years old while in 18 cases it was 9-11 years. Six patients gave the history of epilepsy and 4 were suffering from angina pectoris. In 10 cases the habitual dislocation was fixed while in rest of the cases it was non-fixed. The average incisal edge distance was 44.3 mm ranging from 41-50 mm. Orthopantomograph (OPG) of all the patients was recorded with close and open mouth.

Methods

Patient was seated comfortably in the chair and 1.5 ml of patient's own venous blood was withdrawn. Patient was asked to open his mouth wide enough and this condition was secured in such position with the help of mouth gage. The preauricular area was swabbed with alcohol, 1.5 ml blood was injected lateral to the capsule in both TMJ. Mouth gage was removed and lower jaw was immobilized against the upper with intermaxillary fixation for 15 days. The injections were given in the same manner at intervals of 5 days each. Patients were given analgesics and anti-inflammatory drugs like syrup Brufen for 15 days. Patient was advised to have high protein liquid diet. Intermaxillary fixation was removed on 15th postoperative day.

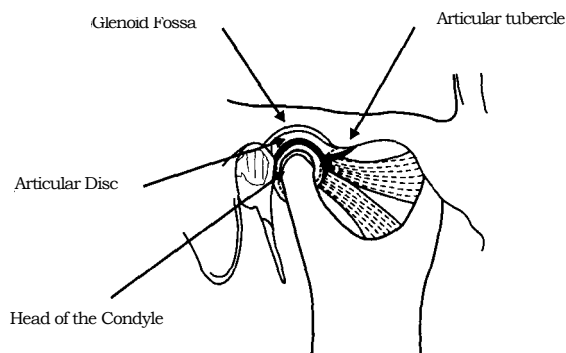


Fig 1

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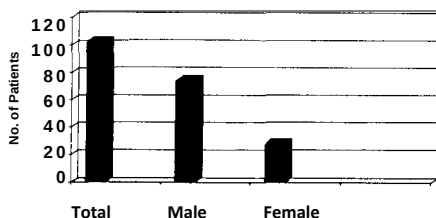


Fig 2. Distribution of the patients

RESULTS

All the patients were followed for 5 years or more. All the symptoms like deviation of the mandible, clicking sounds, neuralgic pain or hypermobility of the mandible disappeared except in 10 cases. The success rate was 90.19% (Fig-3). No complication like damage to facial nerve, prolonged pain, infection, hematoma formation at the site of injection, and scarring was experienced during and after treatment. (Fig-3)

DISCUSSION

TMJ is a synovial joint formed by head of the condyle below and glenoid fossa of temporal bone above, with a fibrocartilaginous disc in between. Head of the condyle is located 15 mm below the skin in front of tragus of the ear.^{11,12} It is 10 mm thick anteroposteriorly and 20 mm long mediolaterally with an average diameter of 203 mm,² whereas the glenoid fossa is 417 mm² in diameter. Thus 1/4th times larger in size than head of the condyle, which loosely fits into it.¹³

There are reports in literature of many surgical and non-surgical techniques ranging from injection of sclerosing agents in TM Joint spaces upto down fracture of zygomatic arch to treat dislocation of TM Joint.

The aim of all non-surgical treatment modalities is to reduce the incisal edge distance by producing scar in the joint associated muscles and ligaments but none of them proved to be ever lasting.

We at AFID have tried most of these procedures for the treatment of recurrent dislocation of TMJ. The method of autohaemotherapy introduced first by Hermann and Tetsch as pericapsular injection in the temporomandibular joint gave excellent results, as compared to other modalities.

Blood is injected in the pericapsular tissue. Bleeding will result from the introduction of a needle for injection in the pericapsular tissue. Blood coming from this wound associated with autologous blood injection will provide a bed for fibrous tissue formation in the region. It must be kept in mind that restrained mandibular movement is the key to the success of the procedure. We do inter maxillary fixation with tie wires for 15 days after autohaemotherapy. It is well known that blood in the TM J area after trauma to the condylar region or after TM J surgery, especially when the patients have their joints immobilized may lead to

unpleasant result, such as mandibular asymmetry or fibrous or bony ankylosis.^{10, 11} In the aforementioned situation, patient should receive proper attention and begin mandibular physiotherapy. By intentionally injecting blood into the TMJ area we are creating a similar situation. Yet here we permit controlled clot formation by limiting only immediate physiotherapy and mandibular movements.

SUMMARY

All the aforementioned etiological factors and specially occlusal disharmony causes over stretching of the accessory components, opening of the mouth beyond its physiological limit, discoordination of the disc and condylar head, thus causing fixed or non-fixed, unilateral or bilateral dislocation. Immediate reduction is necessary to avoid severe muscle spasm, immobilization for several weeks to facilitate repair of the capsule, readjustment of muscular balance and prevention of redislocation while the tissues are still lax.

Removal of causative factor, occlusal rehabilitation, controlled exercises, physiotherapy with ultra-short waves should be tried first before jumping to autohaemotherapy or opting for direct manipulation of condyle.

In our study out of 102 patients recurrence took place only in 10 cases thus securing 91.9% success. It produces fibrosis in the surrounding of the joint capsule and scar in the pericapsular tissue, thus not permitting the stretched capsule and ligaments to allow the head of the condyle to move from its physiological limits.

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Auto Haemotherapy

No of Cases	Success Rate	Failure
102	92 (90.19%)	10 (9.81%)
Dermis-sling Procedure		
1010	(100%)	0

(Fig-3)