

Unilateral Mandibular Dislocation - Can Patient's Psychology be a Contributing Factor ? A Case Report

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ABSTRACT

Acute mandibular dislocation is displacement of the mandibular condyle anterior to the articular eminence causing complete separation of articulating surfaces and fixation in that position. Temporomandibular joint (TMJ) dislocation is not uncommon. It can be unilateral or bilateral and acute, recurrent and rarely chronic. The pathogenesis is diverse. Manual reduction may be difficult to achieve after a certain time because of fibrosis, and then surgical reduction is indicated. We are reporting a unique case of TMJ dislocation in which the psychological behavior of the patient lead to dislocation, which was treated with intravenous diazepam and manual reduction was done, and Barton's bandage was tied. The patient was advised to have cold and soft diet with limited mouth opening.

Keywords: Hypermobility, Subluxation, Temporomandibular joint

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INTRODUCTION

Temporomandibular joint (TMJ) is a ginglymoidal diarthrodial joint with both sliding and hinge type of movement. Mandibular condyle lies in the glenoid fossa of the temporal bone in a closed position. A fibrocartilagenous disc is present between these bones and joint is encapsulated by a fibrous tissue. A number of ligaments and muscles of mastication (masseter, temporalis, medial and lateral pterygoid) assist in the movement of the joint.¹ The ligaments of the joint (lateral, sphenomandibular and stylomandibular) are not true ligaments, but just condensation of fascia. Dislocation of the joint may be unilateral or bilateral and also anterior, posterior, superior or lateral. Anterior dislocations are the most common. The other dislocations are commonly associated with trauma and fractures. Anterior dislocation is when the condyle leaves the glenoid fossa and lies anterior to the articular eminence of the temporal bone. During a normal closure series of muscle activities occur, and mandibular condyle is

moved posterior to the articular eminence before being translated into the glenoid fossa superiorly. In the case of dislocation, this sequence gets broken, and the condyle moves superiorly. A number of activities lead to acute anterior dislocation. In some conditions, the condylar head is displaced beyond the glenoid fossa in anterior, posterior, medial, lateral, or superior direction. This is referred to as dislocation and can be partial (subluxation) or complete (luxation or true dislocation).² Subluxation can be reduced by the patient itself, but in cases of luxation, the patient may need assistance to restore the normal joint position of the mandibular condylar head.³

Mandibular condylar dislocation represents 3% of all the dislocated joints in the body and is classified based on position (anterior, posterior, medial, lateral or superior), symmetry (unilateral or bilateral), number of occurrences (recurrent or non-recurrent), etiology (traumatic and non-traumatic or spontaneous) and time of presentation (acute or chronic). Anterior dislocation is the most common type seen.^{4,5}

Mostly occurs in second and third decades of life,^{6,7} though TMJ dislocation has also been reported in children and the elderly. Females are more likely to develop TMJ dislocation,^{8,9} but the reason for this is not yet fully understood.

The occurrence of TMJ dislocation can be noted in different situations such as shouting, laughing, eating, yawning, epilepsy, tooth brushing, trauma, dental procedures, general anesthesia and otorhinolaryngological.^{5,10-12}

Different treatment modalities have been used to manage TMJ dislocation with varying success rates, including conservative and surgical procedures.^{2,13,14}

CASE REPORT

A 38-year-old female patient reported with a chief complaint of pain and deviation of the jaw toward left side of the mandible since 3 days. Patient gives the history that this was the eighth time when she had this problem of dislocation she also gives the history that whenever she is upset this problem occur, she also stated that she keeps on thinking the same thing due to which she is upset and this problem occurs while eating the food, may be due to excessive mouth opening, which led to mandibular dislocation toward left side that she was not able to bring back to normal position. The general physical examination of the patient did not reveal any deformity and no significant medical history was present. On extra-oral examination, facial asymmetry was apparent, and deviation of the mandible was evident on mouth opening to the left side (Fig. 1). Intraoral examination revealed posterior cross bite (Fig. 2). Based on the history of the patient and clinical examination, a diagnosis of TMJ dislocation was made. Nilaton technique of manual reduction was tried but it failed then local anesthesia with adrenaline was injected, and manual reduction was tried, but it also failed then

IV diazepam was given and manual reduction was tried again, this time it was successful and mandible was brought in its normal position (Figs. 3 and 4) and Barton's bandage was placed for one week. Patient was advised to have soft and cold diet for 15 days and also she was



Figure 2: Pre reduction occlusion



Figure 3: Post reduction profile



Figure 1: Pre reduction profile



Figure 4: Post reduction occlusion

instructed for limited mouth opening while eating food, yawning, coughing, etc.

DISCUSSION

The displacement of the condyle out of the glenoid fossa and anteroposterior to the articular eminence is termed as subluxation. An incomplete subluxation is referred to as dislocation. Predisposing factors can be laxity of ligaments, capsule and ligament injury, degenerative joint disease, non-synchronized muscle function and morphologic abnormalities of condyle and articular eminence.¹ Hypermobility of TMJ is characterized by excessive anterior movement of the condyle at maximum mouth opening without strain or symptoms. Hypermobility, subluxation and dislocation of the TMJ are inter-related conditions and hypermobility is likely a predisposing factor for the latter two. Long-term over closure and loss of physiologic vertical dimension secondary to loss of dentition can also contribute to subluxation and dislocation.^{15,3}

Recurrent mandibular dislocation is relatively uncommon. It is found more frequently in people with general ligamentous and capsular laxity, eminential erosion and flattening.⁶

Incidence of dislocation is more in people with general joint laxity and internal derangement of TMJ or people with occlusal disturbances, such as those associated with loss of teeth and vertical height.⁵ It has also been associated with neurologic diseases with increased muscular activity as well as in patients with extra pyramidal symptoms who are under neuroleptic therapy.¹⁶

Surgical techniques employed to treat chronic recurrent dislocation were partial or complete myotomy, capsular plication, scarification of the temporalis tendon, open condylotomy, insertion of implants into the articular eminence, down fracture of zygomatic arches, augmentation of the eminence by allografts and eminectomy.⁸

Manual reduction of dislocated condyle has been described first by Hippocrates. An alternative method for the same has been described by Yurino.¹⁰

CONCLUSION

Patient's psychology can also be one of the etiological factor for TMJ dislocation, as depicted in the present case. Acute dislocation requires immediate treatment. Manual reduction can be done with or without the use of local anesthesia immediately or within 72 h.

Beyond that duration, reduction may be done under sedation/local or general anesthesia. With time, dislocation develops fibrous adhesions between the discs, condyle, and articular eminence, with changes taking place in jaw muscles and ligaments. This prevents the nonsurgical reduction, necessitating surgical techniques.

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