

Conservative treatment for recurrent dislocation of temporomandibular joint

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Abstract

Objective: Recurrent dislocation of the temporomandibular joint is difficult to treat with nonsurgical methods. A new nonsurgical method for the treatment of this condition is presented.

Methods: Routine dental arch bars were applied to the teeth, and two latex elastic bands were placed between the two arch bars on either side of the dental arch. Muscular exercises (i.e. active mouth opening) were then performed regularly over approximately three months.

Results: Patients were followed up for two to five years, and the treatment proved successful in five of five cases (i.e. no recurrence was seen). The advantages of this treatment are its simplicity and the lack of special equipment needed. No surgery is required, although patients must perform regular muscular exercises. Surgical complications such as trismus and facial nerve palsy are avoided. The disadvantages of this method are the requirement for patient compliance, and its lack of usefulness in patients without teeth.

Conclusions: The described method is useful for patients complaining of recurrent dislocation of the temporomandibular joint.

Key words: Temporomandibular Joint; Recurrent Dislocation; Conservative Treatment

Introduction

Acute dislocation of the temporomandibular joint (TMJ) is easily treated. However, recurrent TMJ dislocation is difficult to treat using nonsurgical methods. Dislocation of the mandible occurs when the condyle moves out of the glenoid fossa and becomes locked anterior to the articular eminence. Yawning, mastication and dental treatment are probable causes. Various treatments are presented in the literature.¹ So far, no adequate nonsurgical treatment method for recurrent TMJ dislocation has been available; open surgical treatment has been the only successful management option.

In cases of recurrent dislocation of the shoulder joint, the surrounding muscles are commonly exercised in order to prevent dislocation. It has been suggested that the same intervention could be applied for the treatment of recurrent dislocation of the TMJ.

In this study, we present a new nonsurgical treatment method for recurrent dislocation of the TMJ.

Method

Application of routine dental arch bars

Dental arch bars were ligated to the teeth with stainless steel wires passed around the neck of each tooth. These bars enabled two latex elastic bands to be placed on either side of the dental arch, running in an

inferoanterior–superoposterior direction (Figure 1). The degree of tensile strength in the latex elastic bands was loose enough to allow the patient to open their mouth. When the steel wires loosened during the treatment period, they were re-tightened. Oral hygiene and dental sanitation needs were addressed.

Muscular exercises

Patients were instructed to perform active mouth opening exercises, over a period of about three months (Figure 2). Snapped latex elastic bands were replaced with new ones.

Results

Five adults (three men and two women) aged between 25 and 43 years underwent this conservative treatment for recurrent TMJ dislocation. In the follow-up period (two to five years), none of the patients suffered any recurrence of TMJ dislocation.

The one complication of this procedure was that the loosened dental arch bars injured the alveolar gingiva in two cases. Thus, this treatment method requires appropriate management of the dental arch bars.

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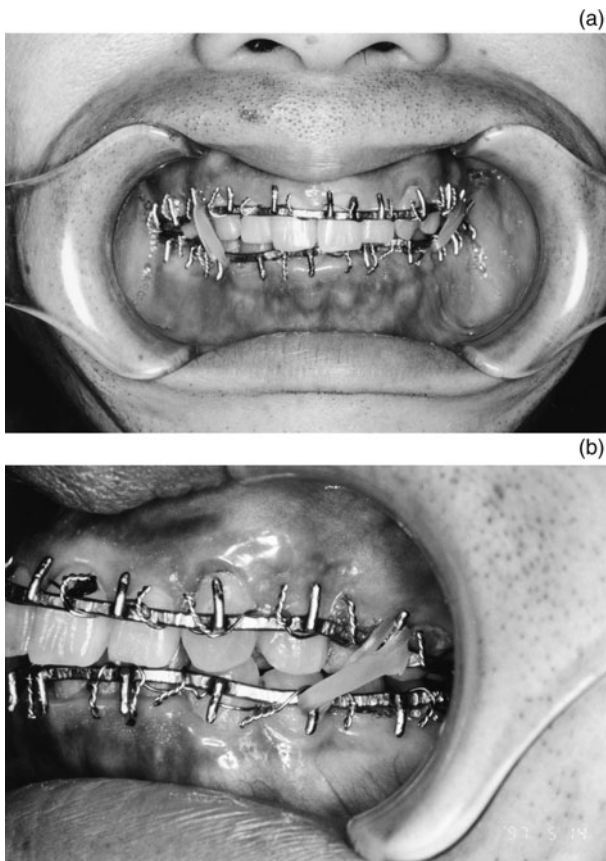


FIG. 1

(a) Front and (b) side views showing application of dental arch bars and latex elastic bands.

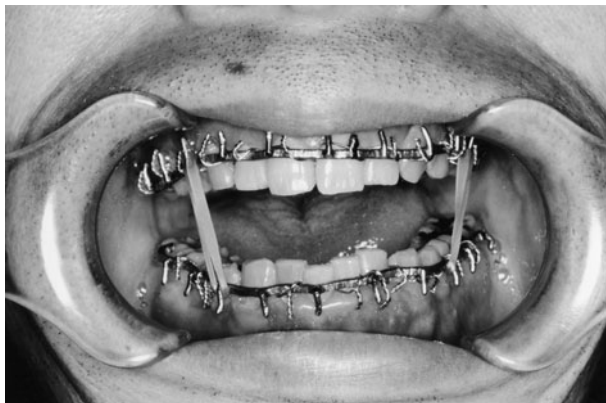


FIG. 2

Front view showing active mouth opening exercise.

Discussion

One nonsurgical method of treating recurrent dislocation of the TMJ is intermaxillary fixation by arch bars, in order to immobilise the TMJ. However, dislocation often recurs immediately after such fixation is removed. Injection of sclerosing solution into the TMJ capsule has also been reported.² Muscular exercises has also been recommended (by

Gerry in 1954) in order to strengthen the suprahyoid muscle groups;³ however, this method required elaborate equipment and patient compliance, and thus is now seldom used. Recurrence of TMJ dislocation is common after such nonsurgical treatments.

Several surgical approaches have been recommended for treating recurrent dislocation of the TMJ.¹ Restraining movement of the TMJ by bone grafting to increase the height of the articular eminence, and ligation of the condyle to the zygomatic arch, have been tried. Freeing of joint movement by removal of the articular tubercle, and rebalancing of joint movement through extirpation of the articular disc and partial detachment of the lateral pterygoid muscle, have also been suggested.

The current study presents an effective conservative treatment for recurrent TMJ dislocation, although the underlying physiological principles of this method are unclear. It is common practice to advise shoulder joint muscle exercises to prevent recurrent shoulder dislocation. Following conservative treatment of condylar fracture of the mandible, it is well known that functional exercise sometimes repositions the dislocated TMJ.

On the basis of the above, we used a new nonsurgical treatment method for recurrent dislocation of the TMJ. These muscular exercises may re-regulate faulty muscular coordination, counterbalance movement of the jaw and thus presumably prevent dislocation of the TMJ.

The optimum time duration for such muscular exercise is unclear. In all cases in the current study, active mouth opening was conducted for about three months; this period could possibly be shortened.

The advantages of this treatment are: (1) its simplicity, with no need for special equipment; (2) avoidance of surgery; and (3) avoidance of surgical complications such as trismus and facial nerve palsy.

The disadvantages associated with this treatment are: (1) patients must comply with the muscular exercise regime; and (2) it is not useful for patients without teeth.

Conclusion

Recurrent TMJ dislocation is difficult to treat with nonsurgical methods. A new conservative treatment method is presented. After application of routine dental arch bars and placement of two latex elastic bands between the two arch bars on either side of the dental arch, patients performed muscular exercise (i.e. active mouth opening) for approximately three months. This conservative treatment proved useful in patients complaining of recurrent TMJ dislocation.

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