

TREATMENT OF TMJ RECURRENT DISLOCATION THROUGH EMINECTOMY — A STUDY

*NOOR-UL-WAHAB, BDS, FCPS

**RIAZ AHMED WARRAICH, BDS, MCPS, MDS, FCPS

ABSTRACT

The purpose of this study was to evaluate the outcome of eminectomy in clinically diagnosed patients with recurrent temporo-mandibular joint (TMJ) dislocation. This study was carried out at Mayo Hospital, Lahore; fifteen patients with recurrent TMJ dislocation were treated by eminectomy using pre-auricular approach. Our study showed no recurrences or complications such as restricted mouth opening, Frey's syndrome, salivary fistula and facial nerve paralysis during a follow up period of 8 months to 4 years.

Key words: *TMJ, recurrent dislocation, Eminectomy.*

INTRODUCTION

Dislocation of TM Joint is a condition that is often encountered in emergency rooms, where patients present with difficulty or inability of closing the mouth, usually after wide yawning, laughing or vomiting. The condition may also occur after excessive mouth-opening during dental treatment or other medical procedures performed under general anesthesia¹.

Recurrent dislocation could be due to variety of causes including TMJ ligament laxity, shallow glenoid fossa, flat articular eminence, flat or short condyle, muscular spasm, rarely Marfan's and Ehlers-Danlos syndrome².

TMJ luxation occurs when the condyle moves outside the glenoid fossa, locking anteriorly to the articular eminence. This locking action is maintained by spasms of masticatory muscles, inevitable leading to luxation. This condition is called as habitual dislocation of TMJ when the episodes become more frequent. It leads to progressive problem. In such cases, it is associated with mandibular hyper mobility and inclination of articular eminence².

Recurrent dislocation of TMJ could be treated either conservatively or with surgical intervention. Conservative treatment include intermaxillary fixa-

tion, injection of sclerosing solution, autologous blood transfusion or botulinum toxin³. Surgical measures include creations of obstruction (Dautrey procedure, use of bone mini-plates and placing graft on articular eminence), removal of obstruction (eminectomy or high condylar shaving), capsule tightening procedures (capsuloraphy or reinforcement of joint capsule), turning down temporal fascia flap to reinforce the capsule of joint, or formation of the external sling by ligating to the fascia through drill holes in both the zygomatic arch and the condyle⁴.

The purpose of this study was to evaluate the efficacy of surgical procedure (eminectomy) where the conservative management like inter-maxillary procedures, and use of sclerosing agents does not provide acceptable results.

MATERIALS AND METHODS

This study was carried out at King Edward Medical University/Mayo Hospital, Lahore during the period from May 2003 to August 2007. Fifteen patients out of 20 were included in this study with the age ranging from 25 to 67 years. After the clinical, radiographic and general assessment, surgical procedure and outcome was explained to the patients. All fifteen patients (eleven females and four males) were treated with bilateral eminectomy under general anesthesia with

* Fatima Jinnah Dental College, Karachi.

** Professor, Department of Oral & Maxillofacial Surgery, K E Medical College/Mayo Hospital, Lahore

pre-auricular (Thorn's angulated) approach. Some of these patients were already treated with Dautrey procedure. Patients with systemic disease and reluctant to surgery were excluded. Clinical parameters including surgical site, operating time, follow up period, the frequency of recurrence and any complication were recorded.

RESULTS

Among fifteen patients 11 (73.3%) were females and 4 (26.7%) were males F:M (3:1) Patients age range from 25 to 67 years. The surgical time range from 45 to 100 minutes with mean 75.26 min. (Table 1). All the patients were operated under general anesthesia. None

Case No.	Age (yrs)	Gender	Sides	Edentulous	Duration
1	25	Female	Bilateral	No	13 months
2	28	Female	Bilateral	No	9 months
3	37	Male	Bilateral	No	7 months
4	33	Male	Bilateral	No	2 years
5	40	Female	Bilateral	No	10 months
6	41	Female	Bilateral	No	8 months
7	52	Female	Bilateral	No	9 months
8	37	Male	Bilateral	No	7 months
9	32	Female	Bilateral	No	11 months
10	29	Female	Bilateral	No	6 months
11	54	Male	Bilateral	No	14 months
12	45	Female	Bilateral	No	19 months
13	54	Female	Bilateral	No	13 months
14	64	Female	Bilateral	Yes	4 years
15	67	Female	Bilateral	Yes	2 years

TABLE 1: PATIENTS DETAILS

TABLE 2. SUMMARY OF PROCEDURES FOR TREATMENT OF BILATERAL RECURRENT DISLOCATION OF TMJ RESULTS (n=15)

Case No.	Anesthesia	Duration (min)	Follow-up period	CN VII paralysis	Limited Mouth Opening *
1	General	45	8 months	No	No
2	General	70	9 months	No	No
3	General	73	14 months	No	No
4	General	72	33 months	No	No
5	General	100	11 months	No	No
6	General	90	17 months	No	No
7	General	63	18 months	No	No
8	General	55	43 months	No	No
9	General	58	29 months	No	No
10	General	90	22 months	No	No
11	General	85	18 months	No	No
12	General	80	11 months	No	No
13	General	75	51 months	No	No
14	General	80	60 months	No	No
15	General	93	36 months	No	No

* No Frey's syndrome, salivary fistula and recurrence found

TABLE 3. PRE AND POST OPERATIVE PAIN ASSESSMENT BY VAS RESULTS (N=15)

Case No.	Anesthesia	Operating Duration (min)	Pre-Operative VAS Score	Post-Operative VAS Score*
1	General	45	4	4
2	General	70	5	5
3	General	73	6	6
4	General	72	3	3
5	General	100	2	3
6	General	90	3	2
7	General	63	4	2
8	General	55	5	3
9	General	58	6	4
10	General	90	7	2
11	General	85	6	3
12	General	80	5	4
13	General	75	6	4
14	General	80	7	3
15	General	93	8	7

*Scale of 1-10 measured after 72 hrs.

of the patients developed restriction of mouth opening, paralysis of facial nerve, Frey's syndrome, and salivary fistula. No recurrence was found. As to the mandibular movements, we noticed that all patients presented lateral movement from left to the right and protrusive movement postoperatively (Table 2). Among the 15 operated cases 9 had pre-operative articular pain. Post surgically we observed presence of articular pain in only 2 cases (VAS >5) within 72 hrs., which gradually diminished and the patient no longer used analgesics.

DISCUSSION

Anterior dislocation is caused by dysfunction of components of the TMJ, including abnormal articular eminence, glenoid fossa, or condylar head, relaxation of the ligaments and the capsule or dysfunction of the muscle of mastication¹. Dislocation of the mandible may be accompanied by extra-pyramidal symptoms such as Huntington's chorea, psychiatric disorders being treated by neuroleptic therapy, and Parkinson's disease. Men with cerebrovascular lesions and cerebral palsy sometimes have similar symptoms. Because all our patients had the same symptoms, we are convinced that the extra pyramidal symptoms may be an aetiological factor in dislocation of the man-

dible. Because patients with extra pyramidal symptoms often have abnormal muscular tension and make excessive involuntary movements, conservative treatment had not proved effective^{6,7}. Dislocation of the mandible in elderly patients with extra pyramidal symptoms can recur after Dautrey procedure⁶ so we selected a more appropriate intervention, i.e, eminectomy⁸, which consists of removal of articular eminence by ostectomy with use of rotatory instruments, first described by Myrhag¹⁰. Since then it has been performed with satisfactory results and confirmed efficacy in the literature^{8,11,12,16}. The rationale of this procedure is to allow the condylar head to move forward and backward free of obstruction by the excision of articular eminence, instead of attempting to restrict the forward movement of the condylar head. The advantage of this method is that it is less invasive, has a short operative time, there is no need for post operative inter-maxillary fixation, bone transplantation or placing any kind of foreign body in the form of plate.

TMJ luxation represents 3% of all articular body luxations¹³. However, many authors consider recurrent luxation as a rare condition. Similar to other temporomandibular affections, the highest incidence of recurrent TMJ luxations is reported in female

subjects, even though the reasons for this fact are still not fully understood¹⁰. It is also represented in our sample in which we detected higher incidence of women (73.3% when compared to men 26.7%).

Anterior luxation of mandible is normally bilateral and symptoms include inability to close the mouth, mentalis protrusion, tension and spasms of mastication muscles, excessive salivation, and difficulty in phonation and pain in the TMJ region¹⁴. In our study, we detected higher incidence of bilateral occurrence. Many treatment modalities are considered in the resolution of pains and dysfunctions of recurrent TMJ luxation¹⁵. In many cases, conservative methods provide some temporary relief of symptoms and recurrence is common. Surgical interventions are normally more effective for definite treatment¹⁶.

CONCLUSION

Eminectomy procedure performed using pre-auricular approach is effective for the treatment of recurrent dislocation of mandible.

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