Eminectomy Versus Eminoplasty in Treatment of Chronic Recurrent Temporomandibular Joint Dislocation.

A thesis Submitted to the Faculty of Dentistry, Ain Shams University

In

Partial Fulfillment of the requirements of the Doctorate Degree in Oral and Maxillofacial Surgery

By

Mohammed Abd El Moiz Mohammed

BDS Cairo University,(2006)

M.Sc. Cairo University, (2013)

Faculty of Dentistry
Ain Shams University
2018

Supervisors

Dr.Marwa Abdel Wahab El Kassaby

Professor of Oral and Maxillofacial Surgery

Faculty of Dentistry

Ain Shams University

Dr. MostafaTaha

Lecturer of Oral and Maxillofacial Surgery
Faculty of Dentistry
Ain ShamsUniversity

بِيْدِ مِٱللَّهِٱلرَّحْمَزِٱلرَّحِي مِ

" وعلمك ما لم تكن تعلم وكان فضل الله عليك عظيماً"

صدق الله العظيم

سورة النساء الآية ١١٣

Acknowledgments

First and foremost to ALLAH, goes all my deepest gratitude and thanks for achieving any work in my life.

This thesis would not have been possible without the guidance and the help of several individuals who in one way or another contributed and extended their valuable assistance in the preparation and completion of this work.

I find that words are simply inadequate, they merely represent only a symbol of my deepest gratitude and appreciation to my great professor Dr.

Marwa El Kassaby Professor of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ain Shams University. Her mastery in teaching, generous help, support, kindness and humanity, not only in this work, but also in all aspects of the field of oral and Maxillofacial surgery will never cease to amaze me.

It gives me great pleasure to express my deepest thanks and profound respect to **Dr. MostafaTaha**, Lecturer of Oral and Maxillofacial Surgery, Faculty of Dentistry, Ain Shams University, for his meticulous scientific supervision during every step of this work.

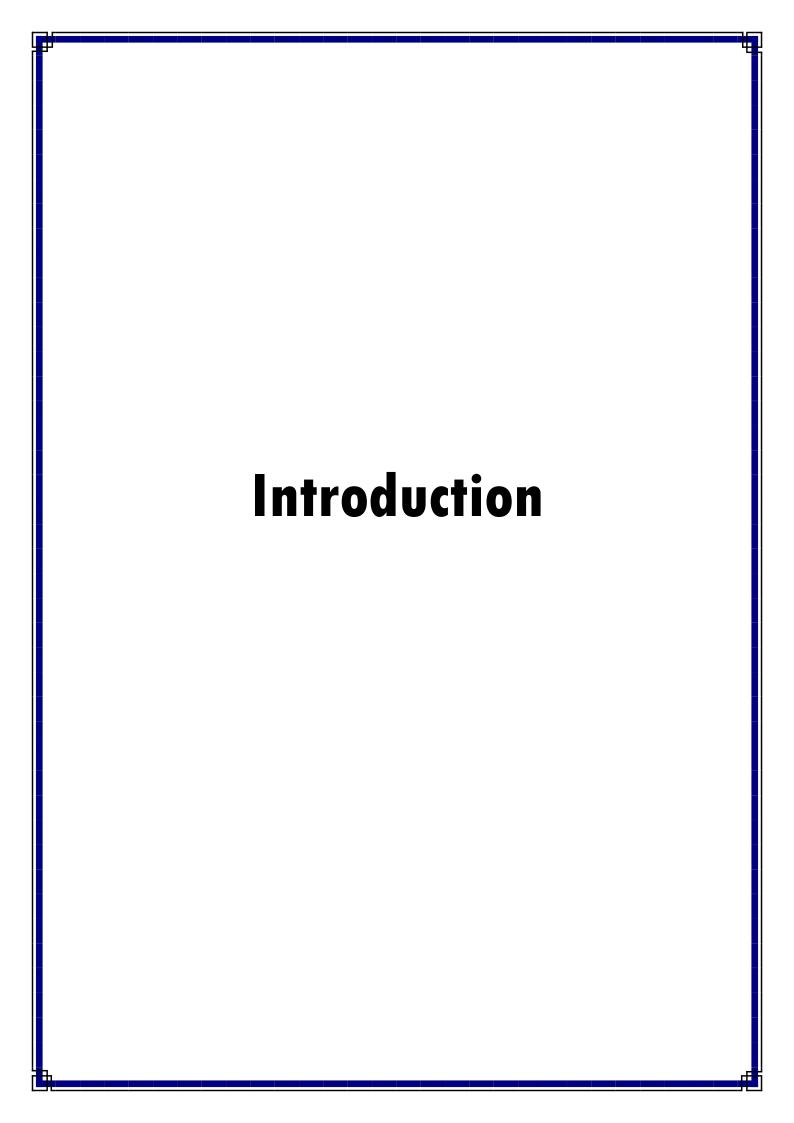
Subject	Page
Introduction	1
Review of literature	3
Aim of the study	42
Patients and methods	43
Results	66
Discussion	87
Summary and Conclusion	97
Recommendation	99
References	100

Figure		Page
1	Line diagram illustrating direction of the oblique osteotomy and placement of the wedge shaped bone graft in gleno-temporal osteotomy	28
2	L-shaped plate fixed to the zygomatic arch.	31
3	removing of eminence in eminectomy	37
4	Eminence in sagittal cut pre-operatively and eminence in sagittal cut post-operatively in eminoplasty group	47
5	Eminence in sagittal cut pre-operatively and eminence in sagittal cut post-operatively in eminectomy group	48
6	CT machine that used in preoperative evaluation.	48
7	Console of multislice CT.	49
8	Coronal cut of TMJ showing the relation between glanoid fossa and condayle.	49
9	Sagittal cut of TMJ showing the eminence and absence of pneumatization.	50
10	Preparation of the patient with shaving the the preauricular facial hair.	52
11	A ball of sterile gauze dampened in providone-iodine that inserted in auditory canal.	53
12	Skin incision with an anterior hockey stick extension.	54
13	Retraction of the skin with skin hooks.	55
14	Blunt dissection with periosteal elevators undermines the superior portion of the incision	55
15	Superficial layer of temporalis fascia.	56
16	An incision through the superficial layer of temporalis.	57
17	Fat globules that found between superficial and deep layers of temporalis fascia.	58
18	Dissection of underlining tissue inferiorly toward the zygomatic arch.	59
19	Periosteum of zygomatic arch.	59
20	eminence.	60
21	Removal of anterolateral slope of eminence	61
22	Complete removal of eminence.	61
23	maximal inter-incisal openingmeasurment.	64
24	Gender distribution in group A.	68
25	Comparison of recurrence rate before 6 months and after 6 months in group A.	69
26	Facial nerve affection in group A.	70
27	Comparison of verbal rating numeric scale preoperatively and verbal rating numeric scale postoperatively in group A.	71
28	Difference in mouth opening preoperatively, immediate post operative, at 3 months and at 6 months in groups A.	72
29	Gender distribution in group B	74

List of figure

30	Comparison of recurrence rate before 6 months and after 6 months in group B.	74
31	Facial nerve affection in group B.	75
32	Comparison of verbal rating numeric scale preoperatively and verbal rating numeric scale postoperatively in group B.	76
33	Difference in mouth opening preoperatively, immediate post operative, at 3 months and at 6 months in groups B.	76
34	Gender distribution in two groups	78
35	Comparison betweeneminoplasty (A) group and theeminectomy(B) group regarding age	78
36	Comparison betweeneminoplasty (A) group and theeminectomy(B) group regarding follow up periods	79
37	Comparison between two groups before and after 6 month.	80
38	Comparison betweenverbal numeric rating scale in both groups preoperatively and postoperatively	81
39	Difference in mouth opening preoperatively, immediate post operative, at 3 months and at 6 months between two groups.	81
40	gender distribution in group C.	83
41	comparison of recurrence rate before 6 months and after 6 months in group C.	83
42	facial nerve affection in group C.	84
43	comparison of VRNS pre-operatively and VRNS post-operatively in group C.	85
44	mouth opening pre-operatively, immediate post-operatively, at 3 and at 6 monthspost-operatively in groups	86

Table no.		Page no.
1	Comparison between eminoplasty (A) group and the eminectomy(B) group regarding duration of symptoms.	57
2	Comparison betweeneminoplasty (A) group and theeminectomy(B) group regarding age	57
3	Comparison betweeneminoplastygroup and theeminectomy group regarding gender	58
4	A preoperative information of group (A) patients.	58
5	Comparison of verbal rating numeric scale preoperatively and verbal rating numeric scale postoperatively in group A.	60
6	Comparison of means and standard deviation of mouth opining opening preoperatively, immediate post operative, at 3 months and at 6 months in group A.	62
7	Comparison of P- values in mouth opining preoperatively, immediate post operative, at 3 months and at 6 months in group A.	62
8	A preoperative information of group (B) patients.	63
9	Comparison of verbal rating numeric scale preoperatively and verbal rating numeric scale postoperatively in group B.	65
10	Comparison of means and standard deviation of mouth opining opening preoperatively, immediate post operative, at 3 months and at 6 months in group B.	66
11	Comparison of P- values in mouth opining preoperatively, immediate post operative, at 3 months and at 6 months in group B.	68



Temporomandibular joint is classified as a ginglymoarthrodial joint which combines both a hinge action and gliding action. Embryologically it is derived from two blastomas: temporal blastomas, which forms the glenoid fossa and articular eminance, and the condylar, which forms the condyle of the mandible. The articular surface of the temporal bone consists of the articular tubercle anteriorly and mandibular fossa. The condyle of the mandible is rounded in an anteroposterior dimension, but resembles a narrow ellipsoid in its larger transverse dimension¹.

Temporomandibular joint (TMJ) dislocation is defined as an excessive forward movement of the condyle beyond the articular eminence with complete separation of the articular surfaces and fixation in that position^{2,3}.

The dislocation of mandibular condyle can be occurring in different positions: anterior, posterior, lateral, and superior according to the direction of the movement. Anterior dislocation occurs when the mandibular condyle moves anterior to the eminence. This is the most common situation, representing a pathologic forward extension of the normal translational movement of the condylar head. The posterior dislocation is mainly associated with a fracture of the anterior wall of the bony meatus of the ear or the base of the skull. Lateral dislocation of the condyle association mainly with fracture of the angle or body of the mandibule and it can be divided into two types the first one is, lateral subluxation and the second is a complete dislocation in which the condyle is forced laterally and then superiorly to enter the temporal space. Superior dislocation is associated with a fracture of the glenoid fossa, with displacement of the condyle into the middle cranial fossa¹.