بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

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بالرسالة صفحات

لم ترد بالأصـــل

LIMITED ENDOSCOPIC SEPTOPLASTY

THESIS

SUBMITTED TO FACULTY OF MEDICINE, TANTA UNIVERSITY
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BY

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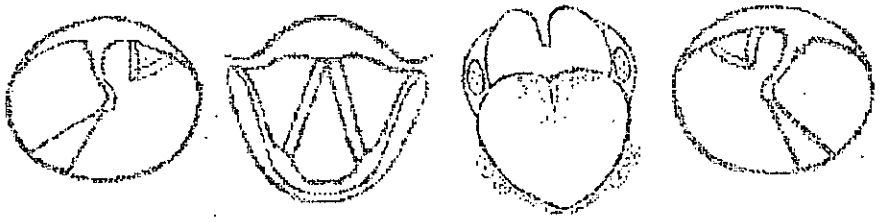
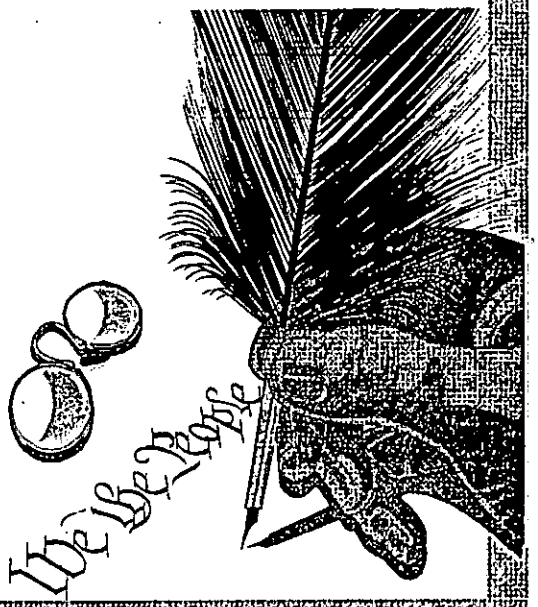
CONTENTS

INTRODUCTION





In most regions of the human body, the famous edict of Mies Van der Rohe holds true – "form follows functions"[1]. However, the reverse applied to rhinology function is almost solely dependent on form[1]. A troublesome and common complaint in the practice of otolaryngology is that of nasal obstruction[1]. The rhinological literature identifies four nasal valves or flow limiting segments: external valve, internal valve, septal valve , and inferior turbinates[1].

The nasal septal valve is composed of the perpendicular plate of the ethmoid posteriorly, the quadrangular cartilage anteriorly, and the vomer inferiorly. The maxillary crest and palatine bones complete the septal floor[1] .

The septum is uniquely constructed to absorb direct trauma. The quadrangular cartilage articulates directly with the bone posteriorly and inferiorly. Such direct cartilage –bone articulation is rare without intervening ligaments and it is this unique construction that allows more lateral mobility. Despite this mobility, though septal deviation is a very common problem. It is estimated that only 23% of the adult population has a straight septum[1].

Surgery on a deviated nasal septum has seen several modification since its inception, starting from radical septal

resection to the mucosal preservation of the possible septal framework[2].

Endoscopic septoplasty is a minimally invasive technique that enables correction of septal deformities under excellent visualization with minimal trauma[3].

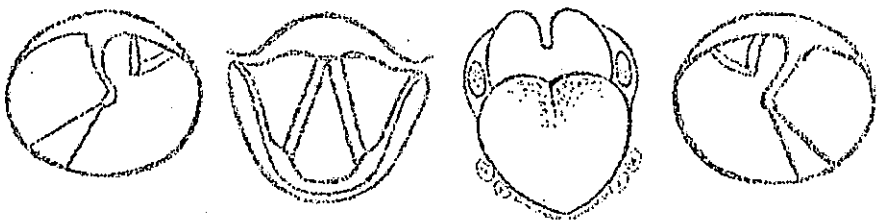
Endoscopic septoplasty is not only used for treating symptomatic nasal obstruction but also for improving surgical access to the middle meatus as an adjunct to functional endoscopic sinus surgery (FESS). A minimal septal deviation that would normally be of little consequence in nasal airway congestion becomes an obstructive factor to successful FESS because of its location[4]. The correction of minimally deviated septum must be done to facilitate adequate visualization and to allow room for endoscopic instrumentation[4].

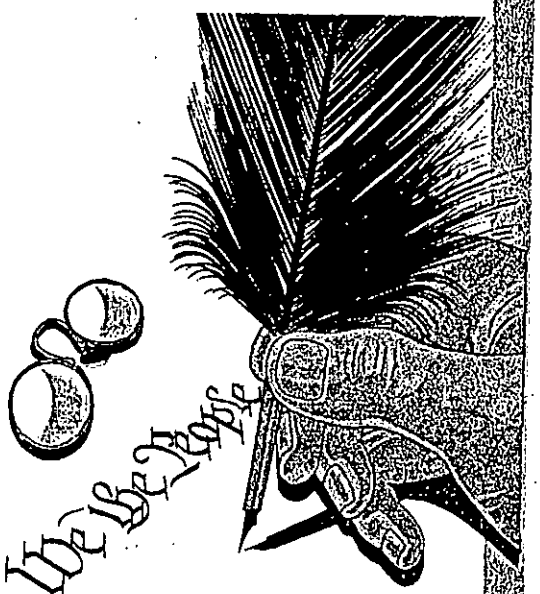
Visualization with the endoscope enables improved evaluation of septal deformities in the nasal valve region and is particularly helpful in diagnosis and correction of posterior septal deformities[3]. In addition , the improved visualization permits limited, minimally invasive surgery for isolated deviations or for revision cases. Finally, endoscopic septoplasty provides an excellent teaching tool[3].

The concept of conservative septal surgery is better conceived by a better understanding of the anatomy and the

pathology of nasal septum and the biomechanical behavior of the septal cartilage[5]. The nasal endoscope allows precise pre-operative identification of the septal pathology and its associated lateral nasal wall abnormalities and helps in better planning of endoscope aided septal surgery[6].

REVIEW OF LITERATURE





ANATOMY OF THE NASAL SEPTUM

The principal parts of the nasal septum are the vomer, perpendicular plate of the ethmoid bone, and the quadrilateral cartilage. Additional bony reinforcements to the septum are the nasal crest and the anterior nasal spine formed by the middline fusion of the palatal processes of the maxillae[7].

The cartilaginous portion is composed of a quadrilateral cartilage with a contribution from the lower and upper lateral alar cartilages forming the anterior nasal septum[8].The quadrilateral cartilage is 3-4mm thick in its center but increases to 4-8 mm anteroinferiorly an area which has been termed the footplate[8]. The upper margin of the cartilage also expands where it is connected to the upper lateral cartilages , forming the anterior septal angle, just cranial to the domes of the lower lateral cartilages[8].

The perpendicular plate forms the superior and anterior bony septum, is continuous above with the cribriform plate of the ethmoid and crista galli[8].

The vomer forms the posterior and inferior nasal septum and articulates by its two alae with the rostrum of the sphenoid, thereby creating the vomerovaginal canals which transmits the pharyngeal branches of the maxillary artery. The vomer may be pneumatized by the sphenoid sinus[8].