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التوثيق الالكتروني والميكروفيلم

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بالرسالة صفحات

لم ترد بالأصل

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MANAGEMENT OF THE TRAUMATIZED AIRWAY

THESIS

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In

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بسم الله الرحمن الرحيم

قالوا سبحانك لاعلم لنا إلا ماعلمتنا

إنك أنت العليم الحكيم

صدق الله العظيم

" البقرة ٣٢"

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I always feel indebted to **ALLAH** *whose blessings on me can not be counted*

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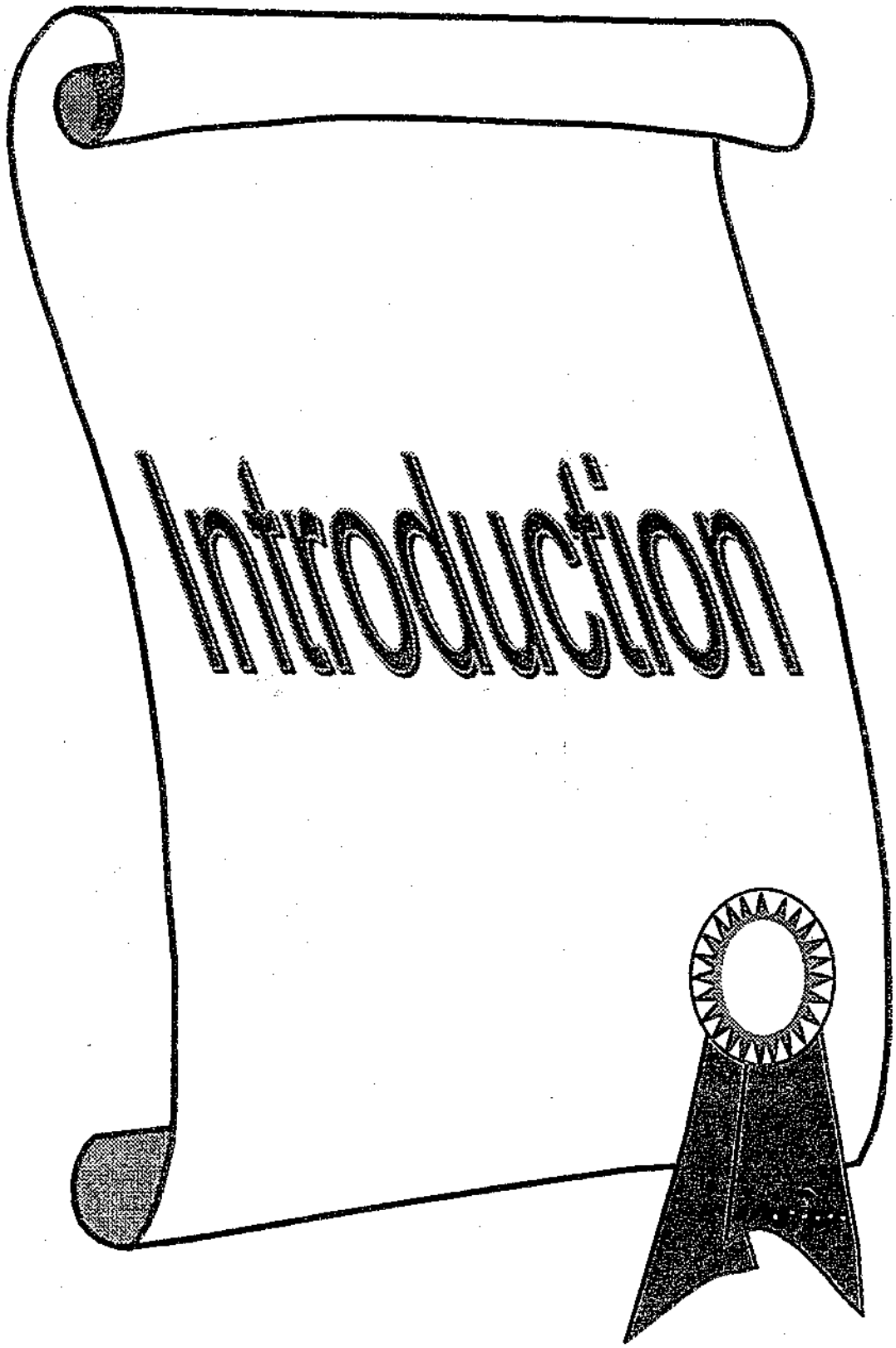
ARABIC SUMMARY


Introduction

INTRODUCTION

Traumatized airway management represent major challange to the anesthesiologist. As with all airway management scenarios, the ultimate goal is clear; secure the airway in the safest possible manner that will provide continuous adequate ventilation[1].

Maxillofacial injury occurs in as many as 22% of motor accident victims. As many as 35% of them will necessiate emergency airway management within hours after admission. The mortality caused by maxillofacial injury itself is only about (0.75%)[2].

The incidence of laryngotracheal injury was 0.03% of patients admitted at a major trauma center. More recent studies place the frequency of airway injury at about 0.5% of patients admitted to level I trauma centre. Autopsy series of trauma victims showed that between 70-80% of persons who sustained airway injury died before reaching the hospital, of those who survived to reach tertiary care, 21% died during first 2 hours after admission[3].

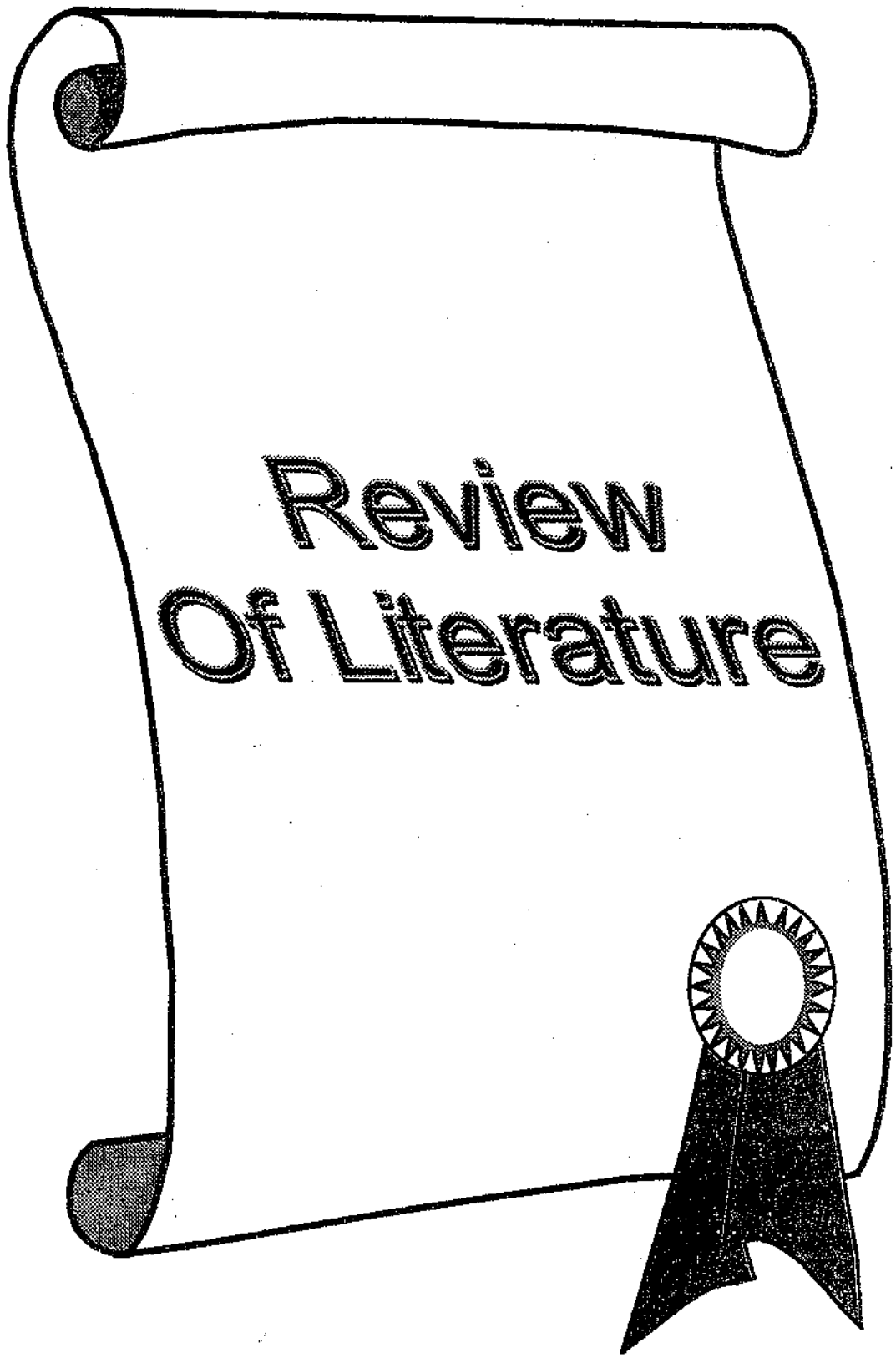
Seven percent of all trauma patients require emergency intubation or other definitive airway management within the first 15 mins of admission. Failed intubation requiring tracheostomy or other surgical management of airway is necessary in about 0.5% of all admission[4].

Hazards associated with airway trauma include maxillofacial trauma which can lead to dislocation of tempromandibular joint

causing limitation of mouth opening or displacement of teeth, bone and blood into the upper airway causing airway obstruction. Other hazards include injury to cervical spine which at high risk due to neck extention during intubation, injuries of major vessels in the neck, risk of aspiration, and associated intracranial or intraocular injuries need some modification of airway management to prevent worsening of these injuries[2].

Difficulties of securing traumatized airway are due to presence of soft tissue edema, laceration, heamorrhage laryngoskeletal fractures and cricotracheal disruption[5].

The material in this work will include retrospective analysis of the cases of traumatized airway in the literature in addition to prospective analysis of some of cases in emergency university hospital.


Review
Of Literature

REVIEW OF LITERATURE

A- Anatomical consideration:

1- Anatomy of the face and oropharynx:

The oropharynx is protected anteriorly by the maxilla, mandible, and teeth; laterally by the mandible and mastoid processes and posteriorly by the base of the skull and the cervical spine. The facial bones are arranged in a manner that allows the force from a blow to be distributed throughout the bony structure, reducing the likelihood of a fracture. Nevertheless, a force of about 80g (that delivered by a 30 mph (meter per hour) motor vehicle accident) is sufficient to fracture any bones of the midface, zygoma, or mandible. Much higher forces are required to fracture bones of the alveolar ridge, the superior orbital region, or the skull[6].

The soft tissue of the pharynx are supported by these bony structures and the airway may be displaced and obstructed after a facial fracture. Midface fractures (especially lefort III type) may cause obstruction of the nasopharynx, whereas mandibular fractures (especially parasymphyseal fractures) may allow the tongue and floor of the mouth to obstruct the oropharynx. The rich blood supply of the face may be injured either by penetrating trauma or by bony fractures. Any branch of the external carotid may be injured by penetrating trauma, whereas fractures are most likely to tear those arteries that pass along the walls of the sinuses. The ethmoid, internal maxillary and greater palatine arteries are most likely to be injured in this manner. Bleeding may cause eventual airway

obstruction either by hematoma formation or by free bleeding into the pharynx with resultant aspiration and pulmonary obstruction[7].

2- Anatomy of the airway proper:

The airway itself is divided into the pharynx and the airway proper, which is composed of the larynx, trachea, and bronchi Fig. (1). The entire airway is a fairly free and mobile structure, attached at its superior margin only to the hyoid bone. Intrathoracicly, it is attached only to the lungs, but the bronchi are anchored to some extent by their passage under the great vessels[8,9]. In the neck the trachea is covered by the thyroid gland, the strap muscles and the cervical fascia, which in turn are surrounded by the structures of the carotid sheath and the sternocleidomastoid muscles. Posteriorly, the membranous portion of the trachea is in close approximation to the esophagus[9].

Internally, all the structures of the larynx are connected by a submucosal sheet of elastic tissue. This is especially thick in the anterior and posterolateral margins, where it is termed the conus elasticus and firmly attaches the thyroid, cricoid and arytenoid cartilages to one another. The attachment of the larynx to the trachea, however, consists only of a thin elastic membrane called the cricotracheal ligament. The cricotracheal ligament is quite weak and is the most likely point of airway separation[10]. The individual tracheal cartilages are connected to each other by fibrous