CONSERVATIVE TREATMENT OF POST CORROSIVE STRICTURE OF THE ESOPHAGUS

ESSAY
SUBMITTED IN PARTIAL FULFILMENT
FOR THE DEGREE OF M.Sc (GENERAL SURGERY)

BY

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FACULTY OF MEDICINE
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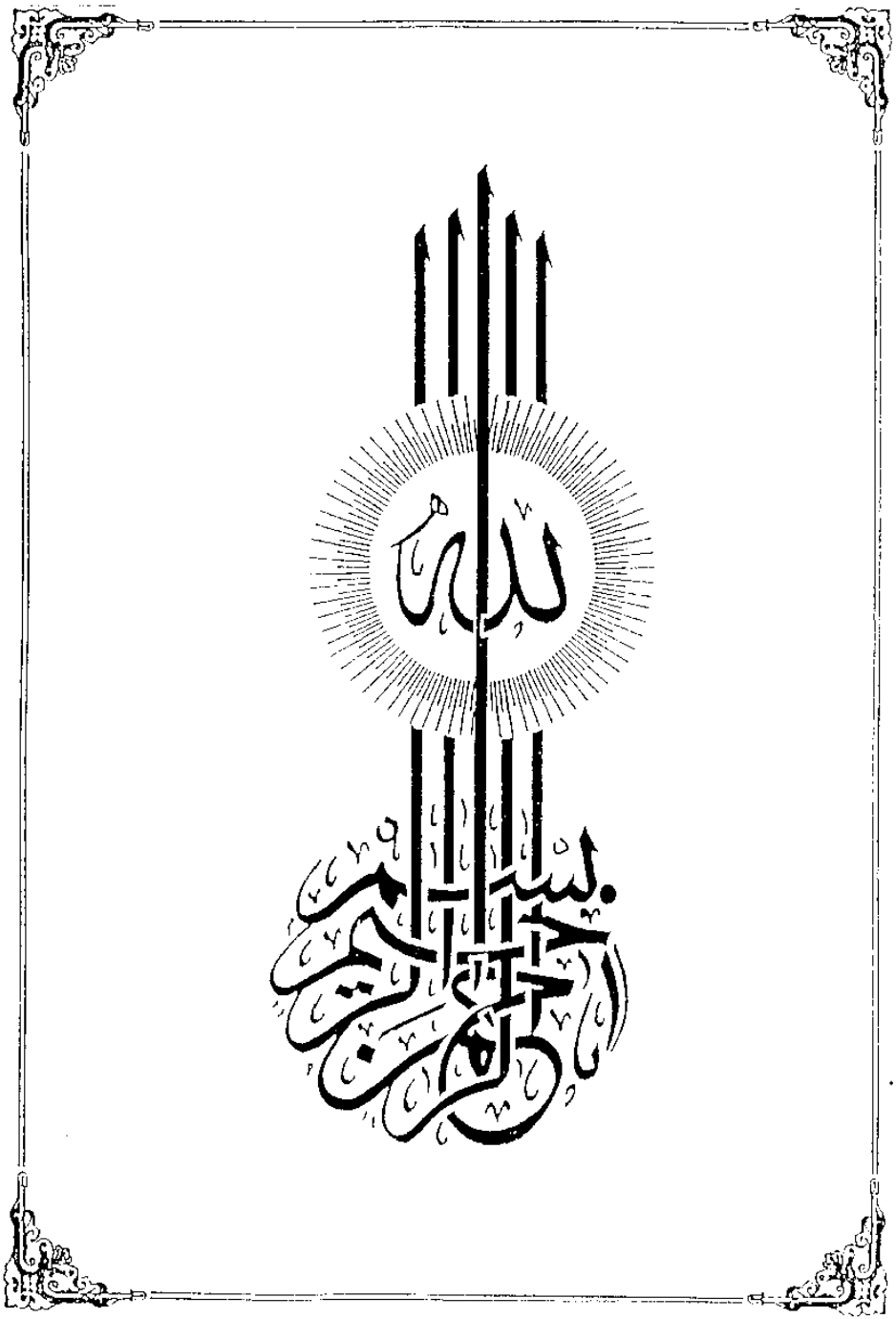

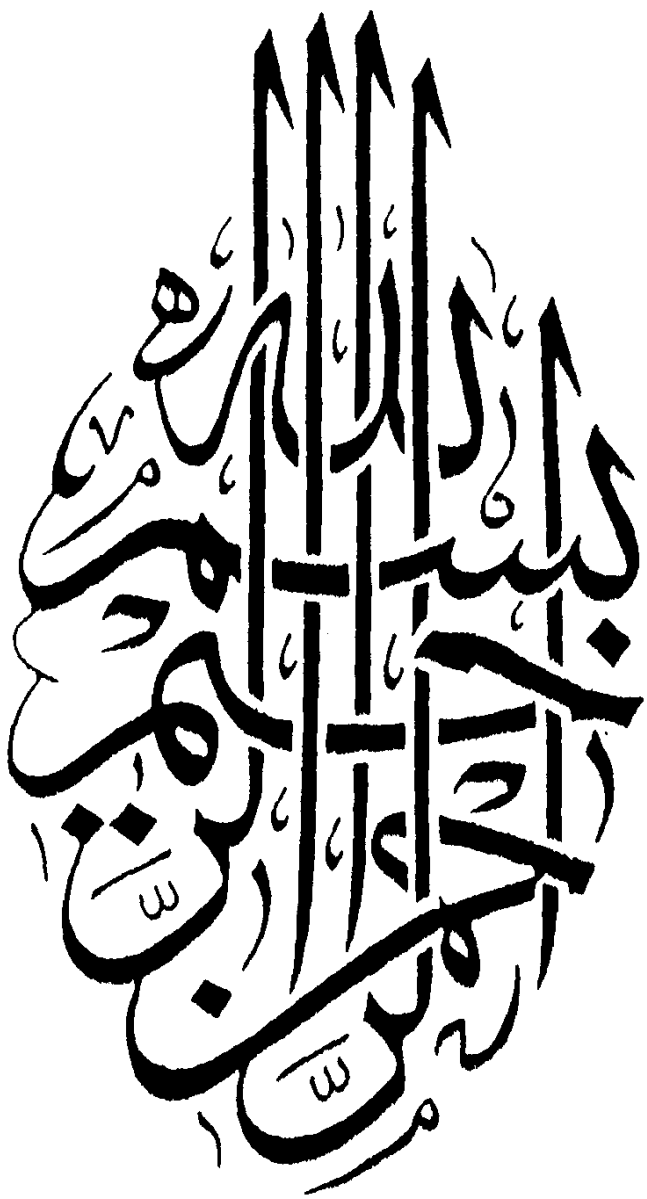

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INTRODUCTION

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Despite recent improvement in the formulation of household cleaning compounds, caustic ingestion remains a serious clinical problem, particulary in children (Oaks et al 1982).

This is due to the wide spread use of potash and a variety of other corrosive substances as an ingredient in homemade soap or as a cleaning agent (Kirsh and Ritter, 1976).

Early management of patients with a history of caustic ingestion includes intravenous hydration to counteract potential sequestration of fluid in injured tissues and administering no food by mouth until initial evaluation is complete (Cello et al., 1980).

The agent, the amount ingested and the time of ingestion determine the location & severity of injury (Kirsh and Ritter, 1976).

Physical examination is always important in patients with caustic ingestion (Ferguson et al., 1989).

Several approaches are advocated to facilitate assessment of injury degree and location during initial evaluation including barium swallow, gastric aspiration, and endoscopy (Ferguson et al.,1989).

Early evaluation of degree of esophageal injury is a reliable indicator of prognosis and allows the formulation of important and accurate therapeutic decisions (Symbas et al., 1983).

The aim of therapy should prevent or minimize subsequent esophageal scarring and stricture formation and also to restore adequate alimentary tract continuity and function.

For patients with post-corrosive esophageal stricture still there are controversy about the prognosis and mortality of surgical interference and its complications (Gossot et al., 1987).

Conservative treatment and endoscopic dilatation of esophagus can still offer a good chance for management of these patient either by antegrade or retrograde esophageal dilatation (Wesdrop et al., 1982).

HISTORICAL BACKGROUND

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Esophageal strictures were treated conservatively by dilatation even before the development of esophagoscopy. The word 'bougie' is derived from the Arabic town of Boujiyah in Algeria, a mediaeval centre for the wax candle trade. Dilatation was first carried out for achalasia and was described by Willis (1621-1675), the famous anatomist whose book was illustrated by Christopher Wren. Whale bones were used as they possessed the combination of rigidity and flexibility . Blind bougienage was performed mainly for impacted foreign bodies and, to a lesser extent, caustic strictures (Sali,1988).

The first esophagoscopy was made possible in the second half of the nineteenth century by extending existing laryngoscopes. Laryngoscopes were developed soon after Helmboltzs' successful use of the ophthalmoscopein 1851. Kussmaul in 1868 was probably the first surgeon to visualize the distal esophagus by using a sword swallower as a subject. A rigid tube was used but the major problem was insufficient light. Bougienage, biopsies and instrumentation were not possible with early esophagoscopes. The first radiological structure was seen by Dawson (1907). Chevalier Jackson (1922) developed and practiced esophagoscopy which allowed the passage of bougies. He also developed the olive shaped and blunt ended bougies (Sali , 1988).

ANATOMY AND HISTOLOGY

The esophagus is a deceptively simple tube, extending from the hypopharynx through the thorax to the stomach. Its function is to convey food from the oral cavity to the stomach, and occasionally to return stomach content in the opposite direction. Peristalsis is necessary for the movement of the bolus and protective barriers are needed at the points of entry and exit (Postlethwait, 1987).

EMBRYOLOGY :

The esophagus developed from the primitive foregut. By the third week of the embryonic life, the esophagus appears as a short narrow tube between the primitive pharynx and the stomach. During the fourth week, the embryonic esophagus elongates rapidly as the stomach descends in the thorax to enter the abdomen before the lateral diaphragmatic components fuse with the septum transversum. Failure of the stomach to reach the abdomen before fusion of the lateral septa with the septum transversum results in that rare abnormality, the congenitally short esophagus. During the seventh week the epithelium lining the esopagus proliferates, and vacules appear. Thus, irregular channels appear in the esophagus, but normally the lumen never becomes totally occluded as it does for a time in the lower vertebrates. (By the tenth week the vacules disappear, and a single lumen is restored). Failure of the embryonic development at this stage of partial, transient occlusion may result in the formation of esophageal webs, stenosis, duplication or atresia (Gray and Skandalakis , 1972).

In the 2.5 mm embryo a ridge appears in the ventral aspect of the foregut just caudal to the pharyngeal pouch. In the 3mm embryo this laryngotracheal ridge becomes piched off from the foregut and primitive esophagus from below upward and from side to side, remaining attached at the larynx, trachea and lungs developed. Failure of complition of this process of separation of the lung bud from the gut results in congenital tracheoesophageal fistula. The esophagus never acquires a typical mesentry or serosal tissue (Kluth et al, 1987).