بسم الله الرحمن الرحيم

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تم رفع هذه الرسالة بواسطة / سامية زكى يوسف

بقسم التوثيق الإلكتروني بمركز الشبكات وتكنولوجيا المعلومات دون أدنى مسئولية عن محتوى هذه الرسالة.

ملاحظات: لا يوجد

The relation between Bougie size and postoperative complications in cases of fundoplication surgery

A Thesis

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in General Surgery

By

Mahmoud Abd El-Nasser Abd EL-Khalek Ali
M.B.B.Ch

Under Supervision of

Prof. Dr. Mohamed Mahfouz Mohamed Omar
Professor of General Surgery
Faculty of Medicine, Ain Shams University

Assist. Prof. Dr. Ahmed Adel Fahim Ain Shoka
Assistant Professor of General Surgery
Faculty of Medicine, Ain Shams University

Dr. Ibrahim Maged Abd Elmaqsod
Lecturer of General Surgery
Faculty of Medicine, Ain Shams University

Faculty of Medicine
Ain Shams University
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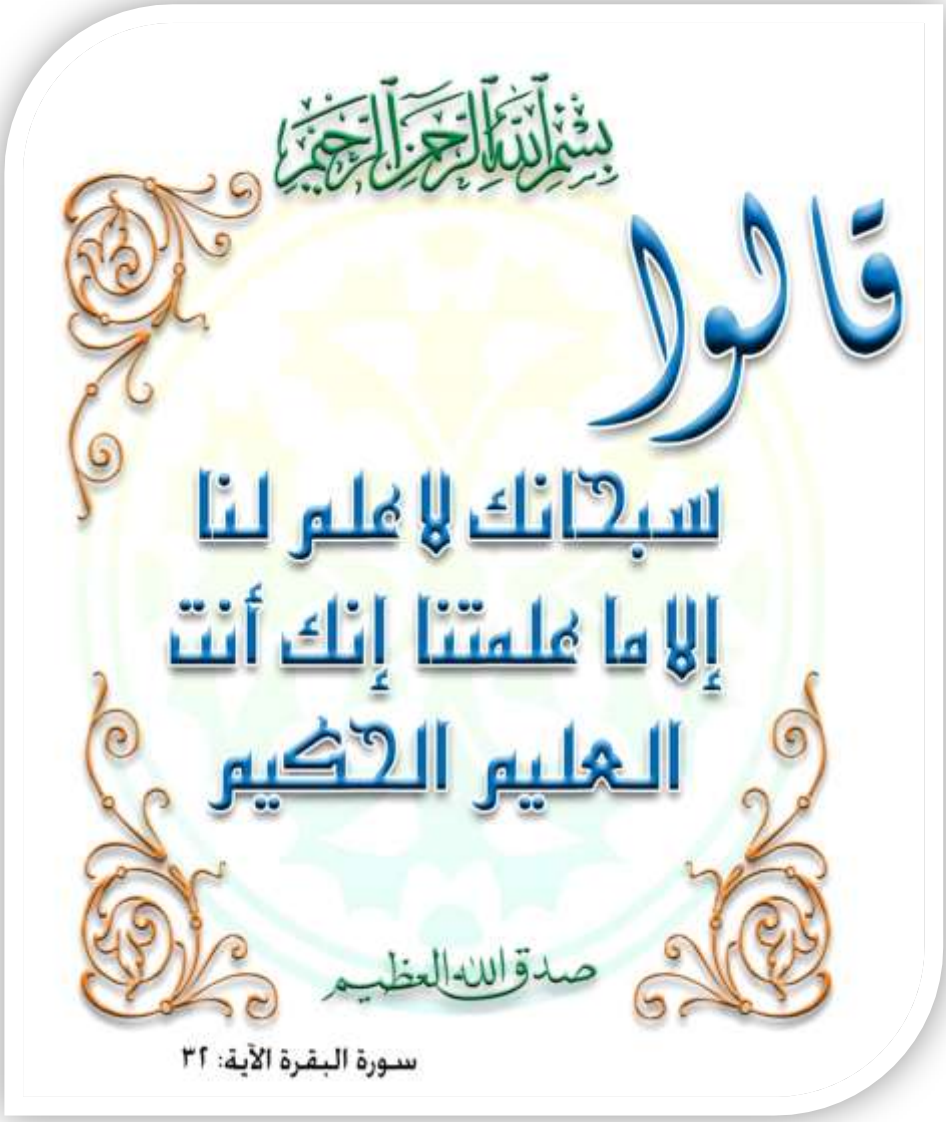
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صدق الله العظيم
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✍ *Mahmoud Abd El-Nasser Abd EL-Khalek Ali*

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List of Abbreviations

Abb.	Full-term
ACG	: American College of Gastroenterology
EGJ	**:** Esophagogastric junction
ESPGHAN	**:** European Society for Pediatric Gastroenterology, Hepatology, and Nutrition
GERD	**:** Gastro-esophageal reflux disease
GI	**:** Gastrointestinal
IRP	**:** Integrated relaxation pressure
LES	**:** Lower esophageal sphincter
NASPGHAN	**:** North American Society for Pediatric Gastroenterology, Hepatology, and Nutrition
SD	**:** Standard deviation
SPSS	**:** Statistical Package for Social Science
TLESR	**:** Transient lower esophageal sphincter relaxation

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ABSTRACT

Background: Fundoplication is a surgical procedure used to treat stomach acid reflux. An effective length of fundoplication and bougie size has never been established in literature and it was mainly determined based on body weight or BMI.

Aim of the study: Comparison between post-operative complications mainly dysphagia based on the size of bougie used during Nissen fundoplication for patients diagnosed with GERD.

Material and Methods: Twenty patients were enrolled and randomized into two equal groups; group A "bougie size 40 French" and group B "bougie size 52 French". Any perioperative related complications were documented and correlated to the size of bougie. Patients were seen in clinic 3 to 4 weeks after their operation for their postoperative check. All patient charts were reviewed for an upper endoscopy specifically for dysphagia and/or dilation within 6 months after surgery.

Results: Patients in group (B) had nausea and heart burn recurrence more than group (A), patients in group (A) had gas bloating more than group (B) and each study group had the same number of patients who had vomiting without any significant difference between two study groups at any symptom. According to Eckardt score assessment pre- and post-operatively within two study groups it was less post than preoperatively with statistically significant difference.

Conclusion: A performance of Nissen fundoplication with a bougie offers a safe and effective therapy for gastroesophageal reflux disease although there were no differences between different sizes of esophageal bougie regarding postoperative complications. It may provide low rates of long-term postoperative dysphagia and reflux recurrence.

Keywords: Bougie size, Fundoplication, Dysphagia, Reflux.

Introduction

Gastro-esophageal reflux disease (GERD) is a common disease with increasing incidence. Therapy includes anti-secretory medications and anti-reflux surgery (ARS). Preoperative workup includes pH testing, upper endoscopy, and esophageal manometry [(1)].

Although the reason behind the decrease in anti-reflux operations noted over the last decades seems multifactorial, one possible explanation is the fear of short-term adverse effects such as re-herniation and need for reoperation as well as long-term side effects like dysphagia and gas-bloat syndrome [(2)].

Studies have shown excellent patient satisfaction after Nissen fundoplication. Although early postoperative dysphagia is relatively common, in most patients it resolves by 8–12 weeks postoperatively [(3)]. However, in some series up to 25% of patients required endoscopic dilation or reoperation [(4)].

The laparoscopic Nissen fundoplication is the gold standard anti-reflux operation, but questions regarding specific technical details are still widely debated: full versus partial fundoplication, mesh versus no mesh, bougie versus no bougie [(5,67)].

The goal of each modification is to maximize reflux control while simultaneously minimizing adverse outcomes such as dysphagia, use of an esophageal bougie decreased the long-term incidence of dysphagia after fundoplication, which has led the majority of surgeons to perform the wrap over a bougie. However, the reported rate of bougie complications is around 0.5% to 1.0% and can result in serious morbidity [5,8,9].

The current literature lacks any evidence on the most appropriate size of bougie that can decrease the incidence of postoperative complication in patients who are undergoing Nissen fundoplication for GERD.

Aim of the Work

The aim of the present study is to compare the post operative complications based on the size of bougie used during Nissen fundoplication for patients diagnosed with GERD as regard dysphagia.

Anatomy and Physiology of the Esophagogastric Junction

The hiatal orifice is an elliptically shaped opening through the diaphragm with its long axis in the sagittal plane through which the esophagus and vagus nerves gain access to the abdomen. Although there is some anatomic variability with partial contribution from the left crus, the most common anatomy is for the hiatus to be formed by elements of the right diaphragmatic crus [(10)].

The crura arise from tendinous fibers emerging from the anterior longitudinal ligament over the upper lumbar vertebrae; the left crus is usually attached to two lumbar vertebrae and the right to three. Additionally, accessory tendons may arise from the fascia over the psoas muscles and from the medial arcuate ligaments. The crura pass upward in close contact with the vertebral bodies for most of their course and only incline forward as they arch around the esophagus [(11)].

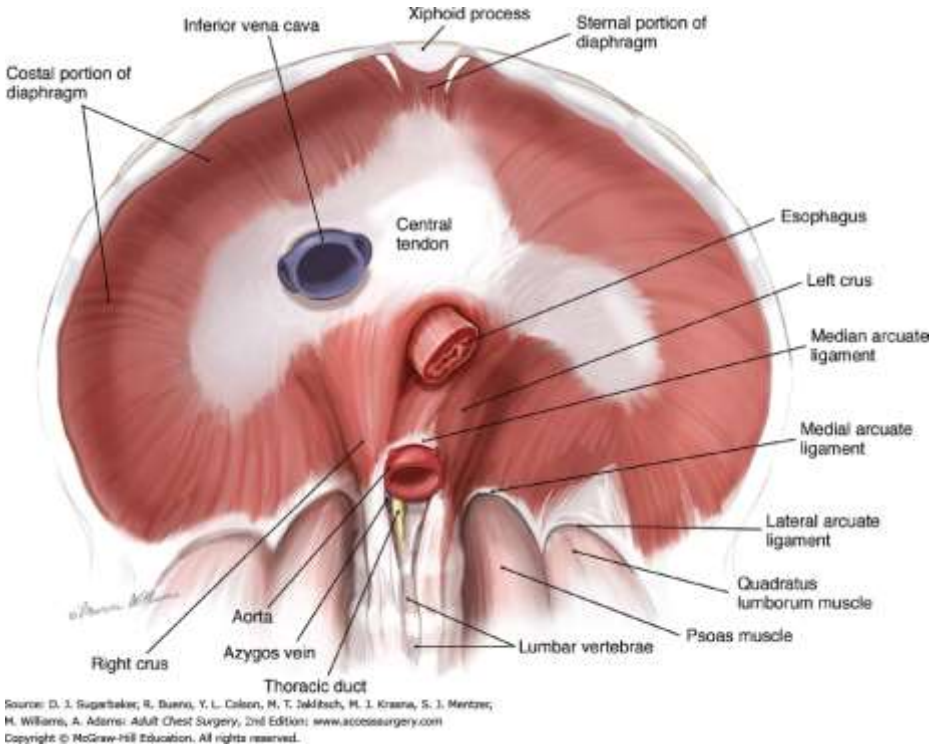

Figure (1): Caudal view of the diaphragm showing diaphragmatic opening [(11)].

Once muscle fibers emerge from the tendinous origin of the right crus, they form two overlying ribbon-like bundles separated from each other by connective tissue. The dorsal bundle forms the left limb of the right crus (thoracic aspect) and the ventral bundle becomes the right limb (abdominal aspect) of the right crus. As they approach the hiatus, the muscle bands diverge and cross each other in a scissor-like fashion with the ventral bundle passing upward and to the right and the dorsal bundle passing upward and to the left [(12)].