Comparative Study to Outcome of Conventional versus Ligasure Hemorrhoidectomy

Thesis

Submitted for Partial Fulfillment of Master Degree in General Surgery

By

Mohamed Adel Mohamed Salman

M.B.B.Ch., Ain Shams University

Under Supervision of

Dr. Amr Mohamed El Hefny

Assistant Professor of General Surgery

Faculty of Medicine - Ain-Shams University

Dr. Abdel Rahman Mohamed El Ghandour

Lecturer of General Surgery

Faculty of Medicine - Ain Shams University

Faculty of Medicine

Ain Shams University

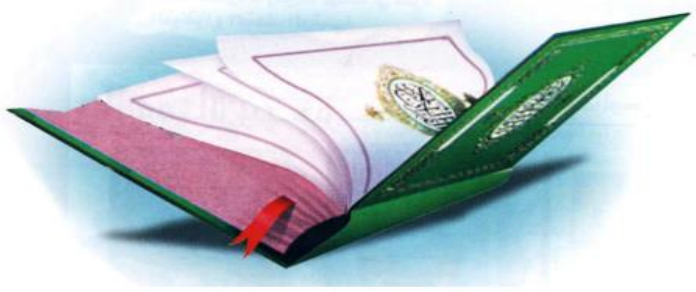
2019

بسم الله الرحمن الرحيم

﴿ قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ ﴾

صدق الله العظيم

﴿سورة البقرة: ٣٢﴾



First and foremost thanks to ALLAH, *the most gracious and the most merciful, to whom I owe everything.*

I wish to express my deepest thanks and appreciation to **Dr. Amr Mohamed El Hefny,** *Professor of General Surgery, Faculty of Medicine- Ain Shams University, for his sincere efforts, fruitful encouragement and generous help.*

Special thanks are due to **Dr. Abdel Rahman Mohamed El Ghandour,** *Lecturer of General Surgery, Faculty of Medicine- Ain Shams University, for his kind guidance, valuable instructions and generous help and support.*

Last but not least, I wish to express my respect and gratitude to ***my family, Dr. Sarah Azab****, for their endless love and care, for their valuable emotional support and continuous encouragement which brought the best out of me* ***and to Dr. Mostafa Elkady,*** *for his endless care, assistance in the cases and valuable support in my thesis.*

I am also thankful to my colleagues who cooperated and help me gathering the data which was included in the current study.

Mohamed Salman

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List of Abbreviations

Abb.	Full term
CCR	Corpus cavernosum recti
DGHAL	Doppler-guided hemorrhoidal artery ligation
PAG	Periaqueductal gray
RF	Reticular formation

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Comparative Study to Outcome of Conventional versus Ligasure Hemorrhoidectomy

Abstract

Ligasure hemorrhoidectomy is a stureless, closed hemorrhoidectomy technique dependent on modified electrosurgical unit to achieve tissue and vessel sealing. It is safe and effective.

In this study, compared with conventional excisional hemorrhoidectomy, LigaSure hemorrhodectomy was superior and more advantageous in terms of short operative time, minimum blood loss, less postoperative pain paster wound healing and less postoperative complications. It is simple, safe, and easy to learn procedure. The major limitations for this study were the small sample size and short follow up of the patients as compared to previous studies. The basic disadvantage with the LigaSure technique in our locality is its expensive cost but this disadvantage has been noted with all new techniques.

Even though encouraging preliminary results of the studies are available about this new surgical technique with less number of complications but we need to do more prospective trials comparing the two groups of Ligasure to the traditional one with large sample size and long term follow ups for recurrence to conclude its definite good efficacy, so that it will become a good option of treatment for third and fourth degree heamorrhoids. LigaSure hemorrhoidectomy could be the gold standard procedure for all symptomatic piles.

Keywords: Ligasure Hemorrhoidectomy, Outcome of Conventional.

Introduction

Hemorrhoids are one of the most common ailments to afflict mankind. The incidence of hemorrhoids increases with age and it seems likely that at least 50% of people over the age of 50 years have some degree of hemorrhoid formation. Men seem to be affected roughly twice as frequently as women **(Kaushik et al., 2019).**

Hemorrhoidectomy is superior to any proposed conservative procedure, including rubber band ligation, sclerotherapy, photocoagulation, and cryotherapy for treating symptomatic grades III and IV hemorrhoids. The availability of new techniques and devices has stimulated researchers to look for the best treatment for curing hemorrhoids. The ideal technique should combine high safety and efficacy of the treatment with low postoperative pain and discomfort along with an effective cost for the same **(Kaushik et al., 2019).**

Symptomatic hemorrhoids are no longer as agonizing as before because of the new modalities of operation that require shorter hospital stay and allowing patients to return to work earlier **(Hetzer & Senagore, 2009).**

All symptomatic piles definitely need surgical excision, especially when conservative measures or

nonsurgical interventions fail to resolve the symptoms. Excision of piles whether surgically or by diathermy or even by stapler hemorrhoidopexy is usually indicated for symptomatic Grade 3 and 4 piles or when conservative measures fail for earlier grades of hemorrhoids or presence of concomitant chronic anal fissure or fistula. Excision of hemorrhoids is usually associated or results in severe and sometimes intolerable postoperative pain which take about 2–8 weeks postoperatively **(Hetzer & Senagore, 2009).**

Such pain remains the main concern which make some patients reluctant to perform hemorrhoidectomy. Therefore, the search for less painful, feasible, and effective alternative is still going on and still the main concern of many surgeons. Even when hemorrhoidectomy performed by diathermy using a monopolar cautery, still the pain is a well-known post-operative complication due to thermal spread and damage to nearby richly innervated tissue. Thus, limitation and minimizing the extent of thermal injury is expected to result in significant reduction of postoperative pain **(Ghnnam, 2017).**

Recently, the introduction of LigaSure vessels sealing electrosurgical unit for the treatment of piles had gained wide acceptance and popularity. LigaSure vessels unit is an improved version of bipolar diathermy with

further advantage of achieving homeostasis by its vessels sealing system. It can seal blood vessels up to 7 mm in diameter. The delivered energy is confined to tissue grasped between the jaws of the forceps with very limited spread of thermal effect to the adjacent tissues **(Noori, 2018).**

Ligasure hemorrhoidectomy can be recommended as the ideal technique because of its limited tissue injury, facilitated wound healing, and decreased post-operative pain. Many trials were performed to compare LigaSure hemorrhoidectomy with conventional hemorrhoidectomy, and it is suggested that LigaSure hemorrhoidectomy is a safe and efficient method to improve surgical outcomes. The primary goal of some trials was to evaluate the benefits of the system over traditional approaches **(Ghnnam, 2017).**

This prospective study was designed to compare between ligasure and conventional hemorrhoidectomy as regards operative time and intraoperative bleeding as well as postoperative pain, hospital stay, healing process, bleeding, recurrence and anal stenosis.

Aim of the Work

To compare between the two approaches for hemorrhoid surgery - Ligasure hemorrhoidectomy and conventional hemorrhoidectomy - in terms of operative time and intraoperative blood loss, as well as postoperative pain, hospital stay, healing process, bleeding, recurrence and anal stenosis.

Chapter (1):

Anatomy

Hemorrhoids are specialized, vascular cushions located in the anal canal. The hemorrhoidal cushions appear predictably in the right anterior, right posterior, and left lateral positions, although there may be intervening secondary hemorrhoidal complexes that blur this classic anatomy **(Sunil & Saumya, 2016).**

They are found in the submucosal layer and are considered sinusoids because they do not typically have a muscular wall. Hemorrhoids are held in the anal canal by Treitz muscle, a submucosal extension of the conjoined longitudinal ligament. The fibers seem to act as a support lattice not only for hemorrhoids but for other important structures in the anal canal. Some authors have reported a loss of these support structures with aging, perhaps explaining the increased incidence of hemorrhoidal complaints with age **(Hall, 2013).**