



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم



شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



MONA MAGHRABY



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات



يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



MONA MAGHRABY



Doppler guided haemorrhoidal artery ligation in the management of symptomatic hemorrhoids.

Thesis

Submitted for Partial Fulfillment of the Master Degree in General Surgery

Presented by

Ibram Nady Nashed Morshed

*M.B.B.ch General Surgery
Faculty of Medicine Ain Shams University*

Under Supervision of

Prof. Dr. Ahmed Alaa-Eldin Abdel-Mageed

*Professor of General Surgery
Faculty of Medicine-Ain Shams University*

Prof. Dr. Yasser Mohammed Abdel-Samea

*Assistant Professor of General Surgery
Faculty of Medicine-Ain Shams University*

Dr. Ayman Magdy Boutros

*Lecturer of General Surgery
Faculty of Medicine- Ain Shams University*

*Faculty of Medicine
Ain Shams University
2021*

Acknowledgment

*First and foremost, I feel always indebted to **GOD**, the Most Kind and Most Merciful.*

*I'd like to express my respectful thanks and profound gratitude to **Prof. Dr. Ahmed Alaa-Eldin Abdel Mageed**, Professor of General Surgery Faculty of Medicine-Ain Shams University for his keen guidance, kind supervision, valuable advice and continuous encouragement, which made possible the completion of this work.*

*I am also delighted to express my deepest gratitude and thanks to **Prof. Dr. Yasser Mohammed Abdel Samea**, Assistant Professor of General Surgery Faculty of Medicine-Ain Shams University, for his kind care, continuous supervision, valuable instructions, constant help and great assistance throughout this work.*

*I am deeply thankful to **Dr. Ayman Magdy Boutros**, Lecturer of General Surgery Faculty of Medicine- Ain Shams University, for his great help, active participation and guidance.*

Ibram Nady Nashed

List of Contents

Title	Page No.
List of Tables	i
List of Figures	ii
List of Abbreviations.....	v
Introduction	1
Aim of the Work	3
Review of Literature	4
Patients and Methods	42
Results.....	54
Discussion.....	64
Summary.....	68
Conclusion	77
References	78
Arabic Summary.....	--

List of Tables

Table No.	Title	Page No.
Table (1):	Goligher's classification.	37
Table (2):	Demographic data.	49
Table (3):	Symptoms	56
Table (4):	Previous treatment.	57
Table (5):	Type of anesthesia, time and number of vessels ligated.....	58
Table (6):	Early postoperative complications.	59
Table (7):	Hospital stay, ret. to work and follow up after 3 months.	61
Table (8):	Relation between age, sex and degree of piles.	62
Table (9):	Relation between symptoms and degree of piles.....	64
Table (10):	Relation between previous treatment, duration of complaint and degree of piles.	65
Table (11):	Relation between number of vessels ligated, duration of operation, early postoperative complications, type of complications and degree of piles.	66
Table (12):	Relation between hospital stay, ret. To work, follow up after 3 months and degree of piles.	68

List of Figures

Fig. No.	Title	Page No.
Fig. (1):	Anatomy of anorectal vasculature.....	4
Fig. (2):	Diagram of common sites of major anal cushions (a) and internal hemorrhoids; (b) and (c) two examples of hemorrhoidal cushions locations.....	6
Fig. (3):	Histopathologic changes in advanced hemorrhoids.....	7
Fig. (4):	Anatomy of anorectal vasculature.....	8
Fig. (5):	Schematic diagram of hemorrhoid formation.....	12
Fig. (6):	Self-illuminated model of anoscope.....	32
Fig. (7):	Examples of: (a) skin tags; (b) external piles prolapse; (c) external and internal (only on the left side) piles prolapse; (d) both external and internal piles prolapse; (e) mucohemorrhoidal prolapse; (f) both external and internal piles prolapse with fibrotic component; (g) mucohemorrhoidal prolapse with significant congestion.	33
Fig. (8):	Examples of hemorrhoidal thrombosis with significant edema. In (a) edema of external hemorrhoids was significant; in (b) edema, engorgement, and mucosal exfoliation were significant.	34
Fig. (9):	Differential diagnosis between hemorrhoidal disease and the full-thickness rectal prolapse: in both examples shown, no any hemorrhoidal prolapse can be observed while the entire wall of rectum is exposed.....	34

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (10):	Differential diagnosis between hemorrhoidal disease and the full-thickness rectal prolapse: in this case a significant mucohemorrhoidal prolapse is shown: only rectal mucosa is prolapsed and can be observed	35
Fig. (11):	Dopplar guided hemorrhoidal artery ligation (HAL) 1a: Localization of haemorrhoid artery branches guided by Doppler 1b: Artery ligation through proctoscope work channel (In-side view).	44
Fig. (12):	Following intraoperative step of THD Doppler procedure while searching an hemorrhoidal artery at the lower part of the low rectum	48
Fig. (13):	The rectal mucosa is marked with electrocautery ("marker point") at the site of the best Doppler signal due to the hemorrhoidal artery lying down into the rectal submucosa	49
Fig. (14):	First passage performing the" Z-stitch" at the level of the proximal low rectum, as a proximal "fixation point" of mucopexy.	50

List of Figures Cont...

Fig. No.	Title	Page No.
Fig. (15):	Second passage (above the first one) performing the “Z-stitch” at the level of the proximal low rectum, as a proximal “fixation point” of mucopexy.....	46
Fig. (16):	Knot securing the “Z-stitch” at the level of the proximal low rectum, as a proximal “fixation point” of mucopexy.	50
Fig. (17):	The recommended distance between each suture is approximately 0.5 cm during mucopexy.	50
Fig. (18):	Sex.	55
Fig. (19):	Degree of pilies.....	55
Fig. (20):	Symptoms.	56
Fig. (21):	Previous treatment.....	57
Fig. (22):	Early postoperative complications.	59
Fig. (23):	Type of complications.	51
Fig. (24):	Outcome at follow up after 3 months.	51
Fig. (25):	Age.	52
Fig. (26):	Sex.....	54
Fig. (27):	Relation between symptoms and degree of piles.	55
Fig. (28):	Duration of operation.	56
Fig. (29):	Relation between hospital stay, ret. To work, follow up after 3 months and degree of piles.....	57

List of Abbreviations

Abb.	Full term
DDD	Distal doppler-guided dearterialization
ET	Endothelin
HAL.....	Haemorrhoidal artery ligation
MMP	Matrix metalloproteinases
NGAL.....	Neutrophil gelatinase-associated lipocalin
NSAID	Nonsteroidal anti-inflammatory drugs
PPH.....	Procedure for prolapse and hemorrhoids
THD	Trans hemorrhoidal dearterialization
SRV.....	Superior rectal vein
MRV.....	Middle rectal vein
RAR.....	Recto-anal repair
RBL.....	Rubber band ligation
PPH.....	Procedure for prolapsed and hemorrhoids
MMH.....	Miligan Morgan hemorrhoidectomy
HALO.....	Hemorrhoidal artery ligation operation
DGHAL.....	Doppler guided hemorrhoidal artery ligation

INTRODUCTION

The word ‘hemorrhoid’ is derived from the Greek haimorrhoids, meaning flowing of blood (haima equals blood, rhoids equals flowing). The word ‘pile’ comes from the Latin ‘pila’ meaning ball or pill. The cause of hemorrhoidal disease is unknown. The prevalence of hemorrhoidal disease varies from 4% of the general population to 36.4% in general practice. The annual rate of office visits for hemorrhoidal disease is 12 for every 1000 patients in the United States, its prevalence is similar between the sexes, and increases with age until the seventh decade (*Johanson and Sonnenberg, 1991*).

Numerous theories, concerning the pathogenesis of hemorrhoids have been proposed but the exact mechanism remains elusive. Constipation and straining were once accepted as the major cause of hemorrhoidal disease but this is considered to be a gross oversimplification. Straining excessively to pass a bowel movement is a common practice described by patients with hemorrhoidal disease (*Loder et al., 1994*).

Clinically, classification of hemorrhoids is described as four distinct ‘degrees’ depending on the extent of prolapse. First-degree hemorrhoids are anal cushions that do not descend below the dentate line on straining, but may develop symptoms of bleeding. Second-degree hemorrhoids are when anal cushions protrude below the dentate line on straining, but retract automatically when the straining ceases. Third-degree

hemorrhoids are when the anal cushions descend below the anal verge on straining or defecation and remain prolapsed until they are digitally replaced. Fourth-degree hemorrhoids are a term used by some to describe anal cushions permanently outside the anal verge (*Dozois and Pemberton, 2006*).

Hemorrhoidal disease can give rise to varying degrees of bleeding, anal swelling, pain, discomfort, discharge, and pruritus. Bleeding is the most common presenting complaint. Hemorrhoids in themselves rarely cause anal pain unless there is thrombosis. Diagnosis of internal hemorrhoids is usually based on symptoms, which include painless bleeding or prolapse. Bleeding is described as bright red spotting on toilet paper or dripping in the toilet bowl and normally occurs at the end of defecation and is separate from the stool (*Dozois and Pemberton, 2006*).

Whilst hemorrhoidectomy has been the mainstay of surgical treatment, more recently other approaches have been employed including ligasure hemorrhoidectomy, stapled hemorrhoidopexy, and Doppler-guided hemorrhoidal artery ligation. Post procedural pain and disease recurrence remain the most challenging problems in the treatment of haemorrhoids. (*Tiernan et al., 2012*).

AIM OF THE WORK

To evaluate the effectiveness and clinical outcome of doppler guided hemorrhoidal artery ligation in management of symptomatic hemorrhoids as regard pain, bleeding and recurrence.

REVIEW OF LITERATURE

Applied Anatomy of Anal Canal and Hemorrhoids:

The anatomical anal canal extends from the level of the valves of Morgagni (dentate line) to the anal margin. For surgical purposes, the anal canal may be regarded as that portion of the terminal intestine which extends from the level where the rectum passes through the pelvic visceral aperture- the anorectal ring- to the anal margin. This concept of the anal canal is more apposite for surgical purposes and as the anorectal ring is above the valves of Morgagni, the surgical anal canal is longer than its anatomical counterpart (*Milligan et al., 1934*).

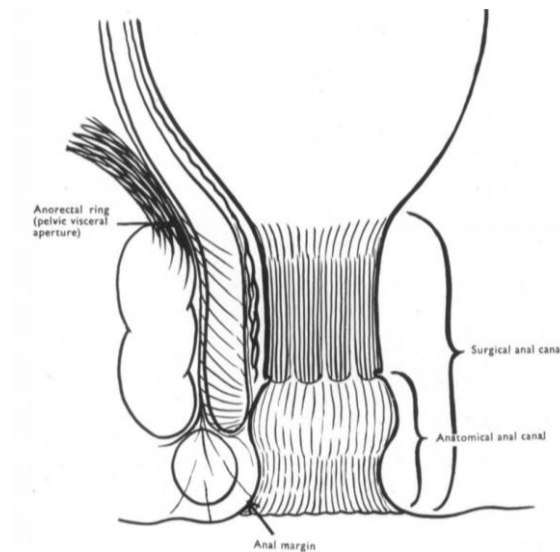


Figure (1): The surgical and anatomical anal canals (*Milligan et al., 1934*).