Recent Advances in Management of Rectal Prolapse

An Essay
Submitted for partial fulfillment of Master Degree in
General Surgery
Presented by

Mohamed Ali Mohamed Mohamed M.B.,B.CH.

Under Supervision of

Prof. Dr. Hossam Eldeen Hassan Hussain El-azazy

Professor of General Surgery
Faculty of Medicine-Ain Shams University

Prof. Dr. Ahmed Mohamed kamal

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

Dr. Haitham Mostafa Elmaleh

Lecturer of General Surgery
Faculty of Medicine- Ain Shams University

Faculty of Medicine
Ain Shams University
2015

بسم الله الرحمن الرحيم

واتقوا الله وَيُعَلّمُ الله والله والله والله والله والله بكل شيء عليم

سورة البقرة ٢٨٢

ACKNOWLEDGMENT

I would like to express my great respect and gratitude for Professor Dr. Hossam Eldeen Hassan Hussain El-azazy, for his care and support for me throughout all the steps.

Moreover, I would like to sincerely thank Professor Dr.

Ahmed Mohamed Kamal, for his enormous effort and invaluableadvice during the process of preparation of the essay. Furthermore, my deepest love, appreciation and

Gratefulness to, Dr. Haitham Mostafa Elmaleh, who stands behindevery achievement I accomplish in this career. Lastly, I would like to show love and thankfulness to my dear beloved mother, my dear beloved wife for their encouragement, help and support that enabled me to achieve this work.

Content

Introduction	1
Aim of the work	5
Anatomy of rectum and anal canal	6
Pathogenesis of rectal prolapse	41
Clinical picture of rectal prolapse	51
Investigation of rectal prolapse	59
Treatment of rectal prolapse	74
Summary	140
References	143
Arabic summary	157

List of figures

Fig1	Male Rectum	10
Fig2	Female Rectum	10
Fig3	Anatomy of anal canal	15
Fig4	Arteries of the rectum and anal canal	20
Fig5	Venous drainage of the rectum and anal canal	23
Fig6	Lymphatic drainage of ano-rectal region	26
Fig7	Nerve supply of the anal sphincters	<i>29</i>
Fig8	Full-thickness rectal prolapsed	47
Fig9	Concentric folds of rectal procidentia	56
Fig10	Disposable and reusable metal	59
Fig11	(A)Partial prolapse of therectum (B)Intussusception protruding from the anus	60
Fig12	Sitzmark capsules	61
Fig13	Sitzmark's test with markers in the right hemicolon	62
Fig14	Magnetic resonance defecating proctogram showing pelvic floor descent and rectocele	69
Fig15	Double-armed, 5-mm Mersilene for Thiersch repair	82
Fig16	Thiersch repair with Mersilenetape	83
Fig17	The tape is secured after tightening to	83
	the level of the proximal	
	interphalangeal joint	
Fig18	The tape is sutured to itself rather than knotted	84

E:~10	(a) With the rectum everted, the mucosa	0.7
Fig19		87
	is incised and dissected away from the	
	Muscular tube	
	 b) The muscular tube is plicated with sutures to form a muscular pessary (c) A mucosa-to-mucosa anastomosis is fashioned (d) The anastomosis spontaneously reduces into its anatomic position 	
Fig20	The rectum is everted	93
Fig21	The anesthetic is injected submucosally	93
Fig22	A circumferential incision is made and deepened through the outer rectal tube until perirectal fat I encountered	94
Fig23	The rectum and the sigmoid are mobilized with division of the mesentery	94
Fig24	The first suture of the anastomosis is placed	95
Fig25	The remaining sutures are placed	95
Fig26	The redundant sigmoid is mobilized through the abdominal wound	101
Fig27	The proximal sigmoid is transected, and	103
	the sigmoid mesentery is clamped,	
	Ligated, and divided	
Fig28	With the rectum under tension, a piece	110
	of mesh is sutured to the presacral	
	fasciaon one side, then sutured to the	
	muscularis of the anterior rectum	
Fig29	The rectum is then secured to the	111
	presacral fascia on the other side to	
	form a sling	
Fig30	The sponge is anchored to the sacrum.	113

	With the rectum under tension, the	
	edgesof the sponge are brought	
	around three quarters of the rectal	
	circumference and sutured to the	
	muscularis of the anterior rectum	
Fig31	The recommended port placement. A 10	119
	mm trocar is placed in the periumbilical	
	Region	
Fig32	A 10 mm trocar is placed in the	122
	periumbilical region. Two additional 10	
	mm trocars are then placed, one in each	
	lower quadrant	
Fig33	(a) A piece of mesh is inserted into the	123
	abdomen through a port, then stapled	
	to the sacrum.	
	(b)The lateral edges of the mesh are	
	wrapped around three quarters of the	
	rectal circumference and sutured to	
	the rectal wall	
Fig34	Trocar placement in the robotic-assisted procedure	138
Fig35	Robotic trocar placement in relation to	138
	the vasculature of the anterior	
	abdominal wall	
Fig36	Da vinci console binocular viewer	139
Fig37	Slave unit: da Vinci arms set up in a	139
	virtual operating theatre	

List of Abbreviations

cm. Centimeter.

EAS External anal sphincter

E.M.G Electromyography.

IAS Internal anal sphincter

M.R.I. Magnetic Resonant Imaging.

mGy. Milligray.

PFM Pelvic floor muscles

PR Per rectal

S.T.C Slow transit constipation

Introduction

Rectal prolapse is a protrusion of the rectum through the anal canal. Precisely how a complete rectal prolapse develops is not thoroughly understood Possible etiologies include a defect of the pelvic floor ,redundant rectosigmoid colon, deep Douglas pouch ,gender (female), psychiatric problems and nulliparity.(Rose et al., 2005)

In partial rectal prolapsed, the mucous membrane and submucosa of the rectum protrude outside the anus for approximately 1–4 centimeters(cm). When the prolapsed mucosa is palpated between the finger and thumb, it is evident that it is composed of no more than a double layer of mucous membrane. (Clark, 2008)

Full-thickness prolapse is less common than the mucosal variety. The protrusion consists of all layers of the rectal wall and is usually associated with a weak pelvic floor. The prolapse is thought to commence as an intussusception of the rectum, which descends to protrude outside the anus. The process starts with the anterior wall of the rectum, where the supporting