

SHORT TERM ASSESMENT OF POST-OPERATIVE COMPLICATIONS
OF HAEMORRHOIDECTOMY

Rectum

THESIS

Submitted in partial fulfilment for
the Degree of M. Sc. (General Surgery)

By

George Kamel Rizkalla
M.B., B.CH. (Cairo)

617.555
G.K

M. In
15501

Supervised by:

Prof. Dr. Tawfik Swidan
Prof. of General Surgery



Faculty of Medicine
Ain Shams University

1982

====

ACKNOWLEDGEMENT

I am deeply honoured to have the opportunity to express my great indebtedness and extreme gratitude to Prof. Dr. TAWFIK SWIDAN, Professor of general surgery, Faculty of Medicine, Ain Shams University, for his great help, meticulous supervision and continuous encouragement which he offered throughout the whole work .

G. Kamel.

1982



CONTENTS

	Page
Introduction and aim of work	
Anatomy of the anal canal	2
Pathological anatomy and pathogenesis	15
Symptoms	26
Complications and sequelae	29
Treatment of haemorrhoids	33
Post-operative complications	62
Material and methods	70
Analysis of the results	77
Discussion	82
Summary	89
References	91
Arabic summary	

INTRODUCTION AND AIM OF WORK

INTRODUCTION AND AIM OF WORK

Piles are certainly one of the commonest ailments that afflict mankind. It is difficult to obtain any accurate idea of their incidence, but clinical experience suggests that very many people of both sexes suffer from haemorrhoids, and that even more perhaps have piles in a symptomless form . So haemorrhoidectomy is one of the most common surgical procedures performed. It has reputation between patients that it is followed by a painful post operative period and may necessitate painful post-operative dilatation , also it is not free from hazards of various degree e.g. haemorrhage, stenosis and incontinence .

Since the ligation and excision operation is the most common technique of surgical haemorrhoidectomy adopted in Egypt , it is worthwhile to study the post-operative complication of this operation.

The study includes 100 patients of primary haemorrhoids where surgery was indicated. Ligation and excision haemorrhoidectomy was performed to them and the results were studied .

It aims at the assesment of the effectiveness of ligation and excision haemorrhoidectomy.

ANATOMY OF THE ANAL CANAL

ANATOMY OF THE ANAL CANAL

It is a short passage $1\frac{1}{2}$ inches long. It begins where the lower end of the rectum suddenly narrows and passes downwards and backwards to end at the anus . Its posterior wall is slightly longer than the anterior wall .

It is related posteriorly to the coccyx with a certain amount of fibrous, fatty and vascular tissue intervening (the ano coccygeal ligament). Laterally there is the ischiorectal fossa on either side with its fat and the inferior haemorrhoidal vessels and nerves which cross it to enter the wall of the canal. Anteriorly in the male the canal is related to the central point of the perineum , the bulb of the urethra and the posterior border of the urogenital diaphragm containing the membranous urethra , in the female , the canal is related in front to the perineal body and to the lowest part of the posterior vaginal wall .

The muco cutaneous lining of the canal consists of an upper mucosal and a lower cutaneous part. The junction of the two being marked by the line of the anal valves about $\frac{3}{4}$ inch from the anal orifice and opposite the middle of the junction of the middle and lower thirds of the sphincter , this level is also referred to as the

pectinate or dentate line which marks the junction of the postallantoic gut and the proctodeum. The valves themselves representing remnants of the proctodeal membrane .

Above each anal valve is a little pit or pocket known as anal sinus or crypt or sinus of Morgagni (G.B.Morgagni 1723) These sinuses may be of some surgical significance in that foreign material may lodge in them with resulting infection, or trauma may be inflicted on the related valve. Above the pectinate line the mucosa is thrown into 8-14 longitudinal folds known as the rectal columns or columns of Morgagni (1723), each adjacent two columns being connected below at the pectinate line by an anal valve. (Figure 1). The mucosa immediately above the valves is lined by an epithelium consisting of several layers of cuboidal cells, traced upwards these give way at a variable distance usually about $1/4 - 1/2$ inch from the valves to a single layer of columnar cells. Milligan and Morgan (1937) pointed out that there are colour changes in the lining anal mucosa when followed upwards from the pectinate line, for $1/2$ inch or so , above the line the mucosa is a deep purple but above the ano rectal ring it changes to the pink colour of rectal mucosa. Below the pectinate line , the anal canal is lined with a modified skin devoid of hair, sebaceous and sweat glands, the lining of this part of the canal for about

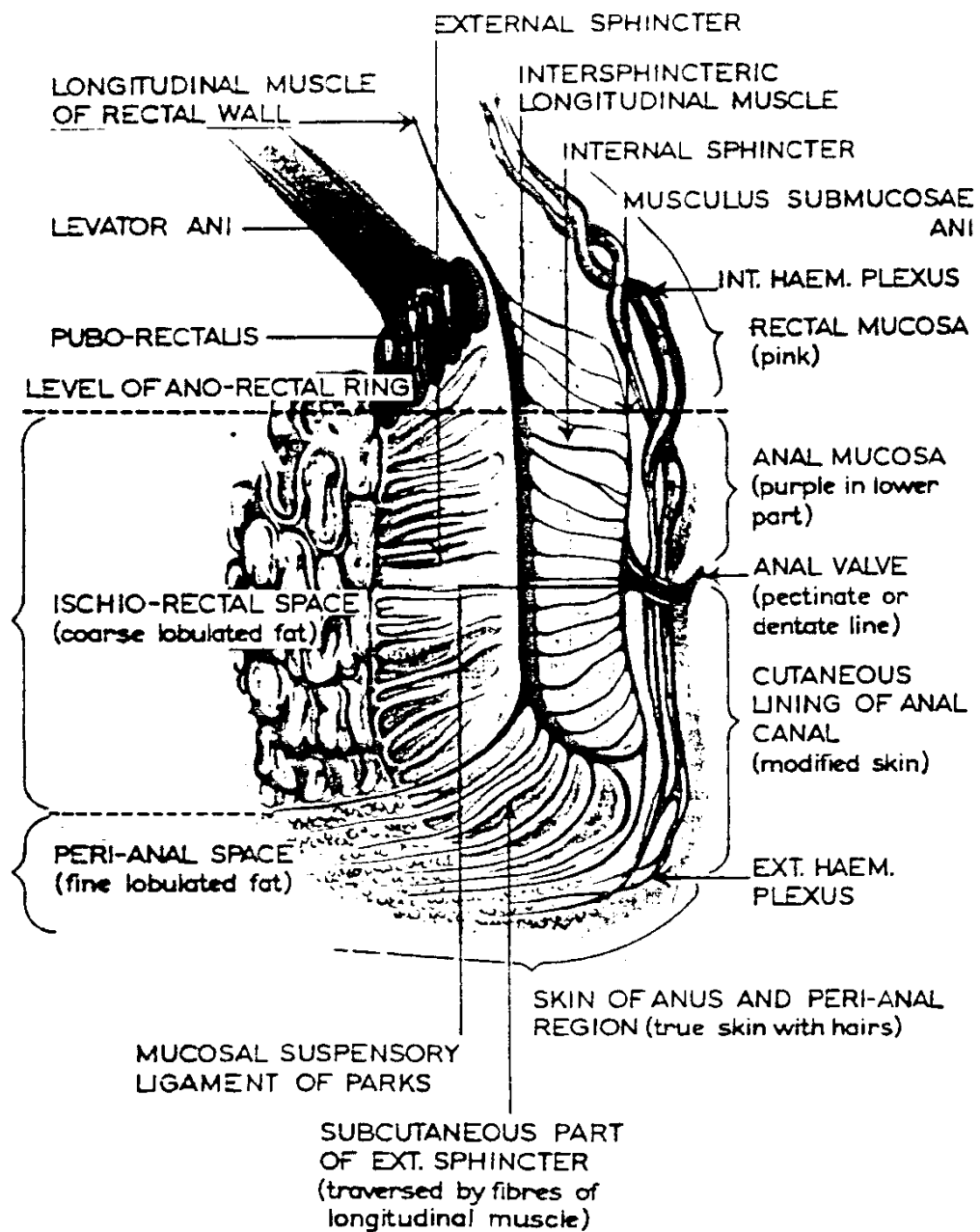


Fig. 1 Coronal section of the anal canal to demonstrate the modern conception of anal anatomy. (From Goligher 1959)

½ inch below the valve appears thin , smooth , pale and stretched , this area is sometimes known as the pecten (Stroud 1896), traced further inferiorly the lining becomes thicker and just outside the anal orifice acquires the hair follicles, glands and other histological features of normal skin.

It is often possible to demonstrate extensions of the anal mucosa through the substance of the wall of the anal canal. There are the anal glands or ducts first described independantly by Chian (1878) and Herman and Desfosses (1880). An excellent recent anatomical study of these structures with particular reference to their role in the pathogenesis of infections in the anal canal is that of Parks (Parks 1961). He described that there are apparantly 4-8 of these glands in the normal anal canal as a rule , each has a direct opening into the apex of the anal crypt and occasionally two glands open into the same crypt , about half of the crypts in any canal have no glands communicating with them , traced outwards from its cryptical opening the average gland has a short tubular portion in the submucosa which quickly branches into a racemose structure of widely ramifying ducts, some glands appear to be confined entirely to submucosa, but with two thirds of them one or more branches enter the internal sphincter , and with one half branches cross this sphincter completely to reach the inter-sphincteric longitudinal layer through some of their terminal loculi have been described

as penetrating the external sphincter as well to reach the ischio rectal fossa, Parks (1961) found that in non of his specimens did the glands proceed beyond this longitudinal intermuscular septum. The general direction of extension of the glands is outwards and downwards but practically never upwards above the level of the anal valves. The epithelium lining the glands is of stratified columnar type, the glands are surrounded by lymphocytes in a form resembling lymphocytic follicles.(Sharyock and Rebell 1943).

It is highly doubtful whether the anal glands have any secretory function ; they appear to be simply blind outgrowths of the anal crypts . Their surgical significance arises from the fact that they may provide an avenue of infection from the anal canal to the submucous and intersphincteric spaces ; they may also be the site of origin of any adenocarcinoma as has been pointed out by Dukes and Galvin(1950).

The first serious study of the anatomy of the anal musculature from the surgical point of view was made by Milligan and Morgan (Milligan 1942 , Milligan and Morgan 1934 , 1937, Morgan 1936) .

In longitudinal sections of the anal canal in both coronal and sagittal planes , the most striking structure

is the internal sphincter . Superiorly it is continuous with the circular muscle coat of the rectum , and inferiorly it ends with a well defined rounded edge $\frac{1}{4}$ to $\frac{1}{5}$ inch above the level of the anal orifice , and $\frac{1}{2}$ to $\frac{1}{3}$ inch below the level of the anal valve .

The plain muscle fibers constituting the sphincter are grouped into discrete elliptical bundles which in the upper part of the sphincter lie obliquely with their transverse axis running internally and downwards , this obliquity becomes progressively less as the internal sphincter is traced downwards so that in the lower part of the muscle the bundles lie horizontally and some of the lower ones even incline slightly upwards .

The external anal sphincter extends farther downwards than the internal sphincter and the lowermost portion curves medially to occupy a position below and slightly lateral to the lower rounded edge of the internal sphincter and close to the skin of the anal orifice .

Contrary to the account of Milligan and Morgan there is no suggestion on histological section of division of the external sphincter into three separate parts , the muscle is one continuous sheet. However, the lowest or sub-cutaneous portion of it which lie below the internal

sphincter does differ from the rest in that it is traversed by a fan-shaped expansion of the longitudinal muscle fibers of the anal canal which split it up into 8-12 discrete muscle bundles. At its upper end the external sphincter fuses with the puborectalis part of the levator ani muscle and it is quite impossible on histological section to say where one muscle ends and the other begins . Both muscles are of course , made up of striped muscle fibers .

The main layer of longitudinal fibers in the anal canal is seen to be between the internal and external sphincters. Histologically this layer consists of non elastic tissue . Traced upwards it is continuous with the outer longitudinal muscle layer of the rectal wall and is joined by some striped fibers of the levator ani. Traced downwards it is seen to break up opposite the lower border of the internal sphincter into a number of septa which diverge fanwise and pass radially through the lowermost part of the external sphincter. Some of those diverging fibers are attached ultimately to the skin of the anal and perianal region from a point a little below the internal sphincter to well beyond the analverge, while others loose themselves in the fat beyond surrounding the lower part of the anal canal.

An additional layer of longitudinal fibers, first described by Fine Lawes (1940) , is one that lies on the

inner aspect of the internal sphincter under the anal mucosa and skin they have named it the musculus sub mucosae ani, and would appear to be derived chiefly from strands of the main inter-sphincteric longitudinal layer which makes their way inward and downward between the bundles of the internal sphincter. Inferiorly , a few of the fibers of the musculus submucosae ani become continuous around the lower edge of internal sphincter with the innermost fibers of the main inter-sphincteric longitudinal layer. But the majority continue downward and outward superficial to the sub-cutaneous part of the external sphincter, to be attached to the skin of the anus and perineal region. This extension constitutes the corrugator cutis ani of Ellis (1878) and Milligan (1942) .

Parks (1955) states that he has demonstrated a strong band of longitudinal fibers passing directly from the inner aspect of the lower part of the internal sphincter to the lining of the anal canal just below the anal valves , he called it the mucosal suspensory ligament and claims that by means of this bundle, the lining of the canal is firmly tethered to the underlying sphincter and that this account for the well recognised inter haemorrhoidal groove which appears on internal haemorrhoids when they are prolapsed or pulled down during haemorrhoidectomy.