# RECTAL PROLAPSE

THESIS

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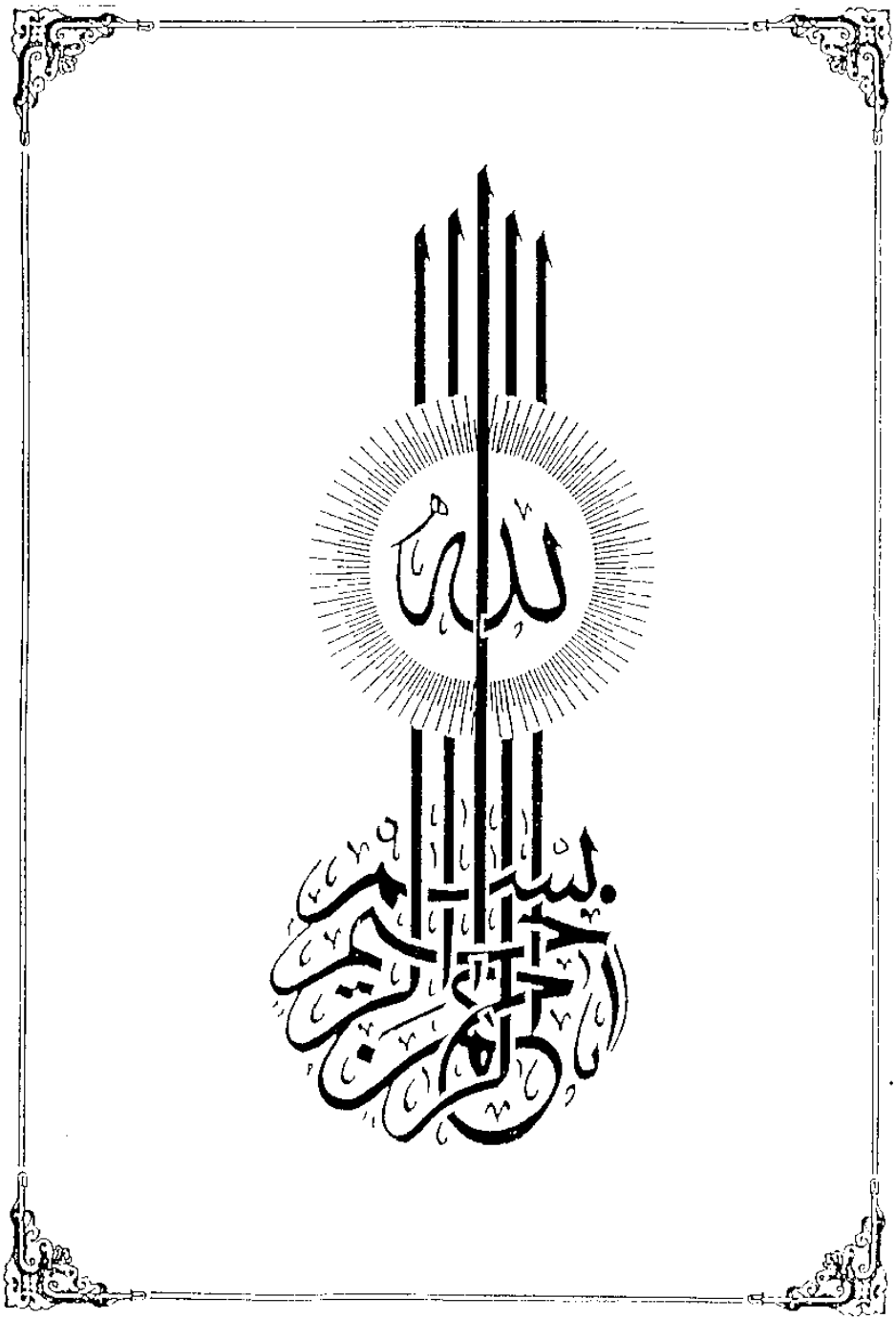

# SUMMARY

The term prolapse of rectum implies a circuferntial descent of the rectum through the anus. If this involves only the mucous membrane, the condition is known as incomplete or mucosal prolapse. If the entire thickness of the rectal wall is extruded, the term complete prolapse or procedentia is used.

It is a distressing condition, as patients suffer from protrusion of a moist mass, faecal incontinence bloody diarrhaea, plevic pain and psychateric problem. The underlying aetiology of such condition is still a controversal subject. Many surgeons believe that it is a sort of sliding hernia through an anterior defect in the pelvic floor; others believe that it is a true intussusception originally started at the recto sigmoid and proceeds downwards as the case advances. Because of this controversy the proper treatment of rectal prolapse is still a problem.

Many surgical procedures for treatment of complete rectal prolapse have been tried and experienced by different surgeons.

# ملخص باللغة العربية


ان سقوط المستقيم يعرف بالهبوط المحيطى للمستقيم بداخل الشـــــرج ،واذا اشتمل هذا الهبوط للمستقيم على الغشاء المخاطى فقط فهذه الحالة تعرف باسم السقوط الجزئى او المخاطى للمستقيم ، وعند اشتماله على جدار المستقيـــــم بأكمله فتعرف هذه الحاله بالسقوط الكامل المستقيم .

ان هـــــؤلاء المرضى يعانون من بروز كتلة مبتله من الشرج تبرز لا ارادينـــــا ، اسهال دموى ، آلام فى الحوض واضطرابات نفسيـــــه .

واسبـــــاب هذا المرض مازال حتى الآن موضوع اختلاف فى المجالات الطبيـــــة وكثير من الجراحين يعتقدون انه نوع من الفتق المنزلق بداخل عيب امامـــى فى الحجاب الحوضـــــى ، وآخرين يظنون انه انضماج عند اتصال القولون بالمستقيم ويستمر فى السقوط مع الوقت ، ولتضارب الاقوال فعلاج هذه الحالة مـــــازال مشكلة طبية ، والعديد مـــن الطرق لعلاج السقوط الكامل للمستقيم تـــــــم اكتشافها وممارستهـــــا .

# THESIS STATEMENT AND OUTLINE

**Thesis Statement** :

Rectal prolapse is a distressing clinical condition, and had undergone since a long time many procedures for its treatment.

This thesis presents the up to date and recent approaches in the diagnosis, aetiology and treatment of rectal prolapse.

Outline :

I- Surgical Anatomy of Rectum and Anal Canal

A- The rectum

1. Relation of pelvic peritoneum to rectum
2. Fascial relations of the rectum
3. Relations of the rectum
4. The curves of the rectum
5. The rectosigmoid at operations

B. The anal canal

1. Relations of anal canal
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3. The musculature of the anal canal
   i. The internal anal sphincter
   ii. The external anal sphincter
   iii. The longitudinal muscle fibre
4. The triple loop system of attachment of external anal sphincter
5. The levator ani muscle
6. Anorectal ring
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V. Diagnosis of Rectal prolapse
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   C. Differential diagnosis
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VI. Treatment of Rectal Prolapse
   A. Prolapse in children
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   B. Partial prolapse in adults
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      1. Perineal or sacral operations
         i Plication of the anal sphincters and levator ani muscles
         ii. Restoration of anal shincter tone by electronic implant
         iii. Encirclement of anal orifice Theirsch Operation
         iv. Narrowing of the anus by fibrosis
         v. Suture of the puborectales muscle
         vi. Posterior fixation of the rectum from below
         vii. Partial excision of the rectum through the anus , Rectosigmoidectomy
            a. Rectosigmoidectomy
            b. Delorme's operation
      2. Abdominal or abdominoperineal operations
         i. Colopexy
         ii. Obliteration or elevation of the abnormally deep rectovaginal or rectovesicle pouch of peritoneum

a. The Moschcowitz operation
b. The Mayo operation

iii. Partial or complete excision of the rectum
a. Low anterior ressection
b. Abdominoperineal excision

iv. Procedures to repair the pelvic structures and fix the rectum
a. Roscoe Graham operation
b. The Pemberton-Stalker suspension fixation operation
c. Presacral rectopexy by simple suture
d. The Orr operation
e. Ivalon sponge repair
f. Ripstein's operation
g. Rectal plication
h. Rectosacral suture fixation
i. A modified technique of rectopexy

3. Treatment of rectal prolapse by sphincter splitting technique
4. Omental pedicle graft rectopexy

VII. The Descending Perineum Syndrome

VIII. Complete Rectal Prolapse in Egypt

# SURGICAL ANATOMY OF RECTUM AND ANAL CANAL

## THE RECTUM

The rectum is the continuty of the sigmoid colon, where the rectosigmoid junction is marked by a distinct flexure, as the terminal sigmoid turns sharply downwards to follow the curve of the sacrum to become the rectum.
The rectum proceeds downwards, then downwards and forwards, closely applied to the concavity of the sacrum and coccyx for 13-15 cms. It ends 2-3 cms. infront and below the tip of the coccyx passing through levator ani forming the anal canal.

O'Beirne (1833) and Mayo (1917) described a sphincter at the rectosigmoid junction, but subsequent work by Martin and Burden (1927) failed to substantiate their finding, and at present time no sphincter is believed to exist(Goligher, 1980).

### Relation of Pelvic Peritoneum to Rectum

Generally speaking the peritoneal covering of the rectum is called the mesorectum. The upper third of the rectum is completely covered by peritoneum i.e. anteriorly , posteriorly and on both sides, except for a thin strip posteriorly where the peritoneum is reflected on it as the two leaves of the thick short mesorectum.

In the middle third, the rectum is covered by peritoneum anteriorly and on both sides only, and it is recognised that the mesorectum is becoming broader and shorter and the peritoneum sweeps off, finally the lower third is completely free from any peritoneal covering. The peritoneum is reflected to form the rectrovesicle pouch in males, and rectovaginal ( Douglas ) pouch in females.

It is possible surgically to distinguish between intra-peritoneal and extraperitoneal parts of rectum ( rectum haut and rectum bas ). They are seperated by the anterior and obliquelly running lateral peritoneal reflection (Ewing 1952). There is a considerable variation between rectum haut and rectum bas, on average the anterior peritoneal reflection lies about 8-9 cms. from the peritoneal skin in males and 5-8 cms. in females. In women with complete rectal prolapse, the rectovaginal pouch is abnormally deep and actually protrudes into the rectum and through the anus into the prolapse.

## Fascial Relations of the Rectum

I. Laterally:

The lateral ligaments of rectum appear on either sides of the rectum below pelvic peritoneum, between it and floor of the pelvis formed by levator ani. It is formed from fibrofatty tissue, the fibrous elements of which are part of pelvic fascia connecting the parietal pelvic fascia on sides of pelvis with rectum. They are roughly triangular in shape with a base on pelvic side wall and apex joining the side of rectum.

Surgically, their division is an essential step in the operation of rectal excision, and is followed by a variable amount of bleeding from the middle haemorrhoidal arteries which run in them.

II. Posteriorly:

a) Fascia propria or Fascial capsule

This is a thin layer of fascia covering the fat, vessels and lymph glands on back of rectum, and it is a part of the veisceral pelvic fascia.

b) Fascia of Waldeyer

It is a fascial covering to the sacrum and coccyx, it is much stronger and tougher than the fascial capsule and is the specially thickened part of the parietal pelvic fascia.

Inferiorly, it fuses with the fascia propria at the anorectal junction, at this site it has to be served in order to reach the retrorectal space.

III. Anteriorly:

Fascia of Denonvillier

It is a definite fascial layer, easily seen at operations for excision of the rectum. It intervens between rectum behind and prostate and seminale vesicles or vagina anteriorly, but more closely adherent to the rectum so that it is more convenient to seperate it from them along with the rectum in the course of a rectal excision and then to divide it transversly at a lower level.

## Relations of the Rectum

Posteriorly, outside Waldeyer's fascia, it is related to the sacrum,coccyx, levator ani, left and sometimes right coccygeal muscles, middle sacral vessels and the roots of the sacral plexuses on either sides.

Anteriorly, mainly visceral relations, in males extraperitonealy there are the prostate, seminal vesicles, vasa deferentia, ureters and bladder wall, intraperitonealy loops of small gut and sigmoid. In females, extraperitonealy lies posterior vaginal wall, intraperitonealy there is the pouch of Douglas related to upper part of vagina, uterus, coils of small intestine, ovaries, uterine tubes and sigmoid.

Laterally, above peritoneal reflection are viscera mainly loops of small intestine, uterine appendages and sigmoid colon, below the reflection a connective tissue and lateral ligament seperates it from side wall of pelvis, ureter and iliac vessels.

## The Curves of the Rectum

There are three lateral curves, the upper most and lower most are convex to the right, and the middle convex to the left. the angulation of the bowel on the concave side of each of these curves is accentuated by infoldings of the [illegible] known as Houston valves.

## The Rectosigmoid at Operations

During surgical operations, one can not distinguish between sigmoid and rectum as in the

headdown position the sigmoid loop gravitates headwards out of the pelvis, so it is quite difficult to be sure where the sigmoid ends and rectum begins, so the term rectosigmoid implies indefinite meaning.To surgeons this term is not one point, but rather a segment comprising the last 5-8cms. of sigmoid and upper most 5cms. of rectum.

For localisation of growths in this situation, the promontary of the sacrum is the land mark ( Lloyd-Davis, 1956). So we draw the sigmoid out of the pelvis, the upper rectum lies tautly along the front of lumbosacral spine, if the growth lies entirely below sacral promontary, so it is regarded as being in the rectum, and if above in the sigmoid, if in between so this is a rectosigmoid growth.

## THE ANAL CANAL

It is a tube extending from the anorectal junction to the anal orifice about 4cms. long.

### Relations of Anal Canal

Posteriorly, is related to the coccyx with certain amount of fibrous fatty and muscular tissue intervening.

Laterally, the ischiorectal fossa on either sides with its fat and the inferior haemorrhoidal vessels and nerves which cross it to enter the wall of the canal.

Anteriorly, in males it is related to central point of the perineum, the bulb of urthera and posterior branch of urogenital diaphragm containing membranous, urthera. In females it is related infront to the perineal body and to lowest part of posterior vaginal wall.

### The Mucocutaneous Lining of the Anal Canal

The Anal Canal is divided to an upper mucosal and lower cutaneous parts, the junction of the two being marked by the line of the anal valves or pectinate or dentate line, about 2cms. from the anal orifice.

Embriologically the pectinate line marks the junction of the postal primitive gut and the proctodeum, the valves represents the remants of the proctodeal