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ANO-RECTAL INCONTINENCE

ESSAY

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By

ATEF KAMEL MOHAMMED SHIHA

M.B., B. Ch.

Supervised by

Prof. Dr. MOHAMMED M. RAGHEB

Assistant Professor of Surgery

Dr. ABD ALLAH EL -SAID

Lecturer of Surgery

FACULTY OF MEDICINE

AIN SHAMS UNIVERSITY

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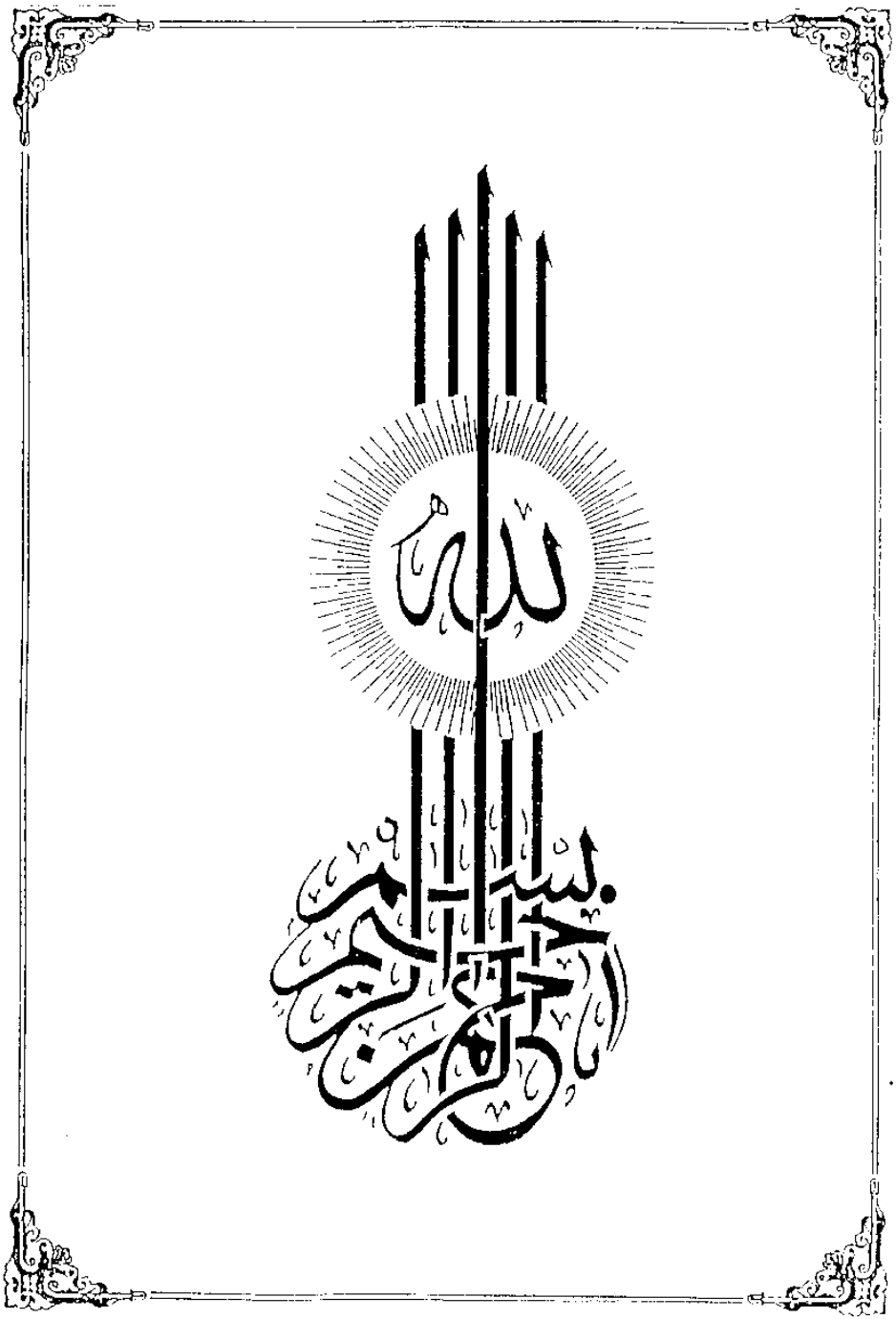

To my parents,

my wife and

my sons.

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Contents

INTRODUCTION

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Patients undergoing operations for minor rectal conditions such as haemorrhoids or fistulae are apt to be worried particularly of 2 fears that they may suffer intolerable post-operative pain, or that they may be left incontinent. Certainly one of the foremost considerations in the mind of the surgeon in selecting and carrying out surgical procedures in the anal region is the preservation of normal continence, and defects of this function as a result of operative treatment are now relatively rare, which is fortunate because there is very little that can be done to remedy them. In practice, anal incontinence is far more frequently found to be due to disease or non-surgical trauma.

Although faecal incontinence is not a life threatening condition, yet, the socio-psychological burden of faecal soiling can be as crippling as any physical disability.

Unfortunately, in most of these patients such difficulties are not amenable to direct repair of the sphincter except in selected cases where it is possible to create surgically a new dynamic sphincter that will restore adequate control .

Careful attention to past history and physical examination is required to select those patients who can undergo reconstruction. Elderly patients who have a history of chronic constipation or laxative abuse often do not have surgically reconstructable lesions. However if a previous injury (due to trauma, surgery or child birth) has occured, direct repair of the sphincter may be possible.

It is believed that the electromography will help in the choice of the appropriate muscle to be transferred, the objective evaluation of the results and also it can be combined with a biofeedback techniques for training the patient in the use of new sphincter.

ANATOMY OF THE RECTUM & ANAL CANAL

Anatomy of the Rectum

At first the rectum proceeds downward, then downward and forward, closely applied to the concavity of the sacrum and coccyx for 5 or 6 inches (13 to 15 cm).

It ends 1 to 1¼ inches(3 to 4cm) infront of and below the tip of the latter bone by turning abruptly downward and backward and passing through the levator muscles to become the anal canal, which has an average length of 1¼ to 1½ inches (3 to 4 cm) and terminates at the anal orifice or anus (Goligher et al, 1984).

Relation of Pelvic Peritoneum to Rectum:

The upper third or so of the rectum has a complete peritoneal investment except for a thin strip posteriorly where the peritoneum is reflected off it as the two leaves of the thick short mesorectum . As the rectum descends into the pelvis the mesorectum becomes broader and shorter and the peritoneum sweeps off not at the

back out at the sides of the rectum, so that the uncovered portion posteriorly becomes progressively wider until only the anterior aspect has a peritoneal coat. Finally this becomes reflected forwards at the bottom of the rectovesical or recto- uterine pouch on to the back of the seminal vesicles and bladder, or the vegina and uterus in the female, leaving the lower third or so of the rectum without any peritoneal covering (Goligher et al , 1984) .

The Fascia of the Rectum:

Consists of loose areolar tissue surrounding the rectal venous plexus . Posteriorly a sheet of fascia, more membranous in character, suspends the lower part of the ampulla to the hollow of the sacrum; It encloses the superior rectal vessels (artery, Veins and Lymphatics). It is known as the fascia of Waldeyer (Last 1979).

Laterally, just above the pelvic floor, the middle rectal artery and the branches of the pelvic plexuses are enclosed in a slight condensation of

areolar tissue that is known to surgeons as the Lateral ligament of the rectum. The fascia of Waldayer, the lateral ligaments, the pelvic peritoneum and the vessels and most of all the pelvic floor combined to hold the rectum stable in its position. Anteriorly some muscle fibres leave the lower part of the ampulla and pass forwards towards the apex of the prostate and the commencement of the membranous urethra. They form the recto-urethralis muscle, a surgical landmark in operations in this region (Last 1979).

Denonvillier's fascia: It intervenes between the rectum behind and the prostate and seminal vesicles or vagina anteriorly but is more closely adherent to the rectum than to these structures; so that it is more convenient to separate it from them along with the rectum in the course of a rectal excision and then to divide it transversely at a lower level. sometimes the fascia consists of two layers (Goligher et al, 1984).

Other Relations of the Rectum: Behind, outside the fascia of Waldeyer, the rectum is related to the sacrum and coccyx, the levator ani muscles, the left, and sometimes also the right, coccygeus muscle, the middle sacral vessels and the roots of the sacral plexus on either side. In front, the relations of the rectum are entirely visceral and a considerable part of its surface is of course covered by peritoneum, which means that direct extension of growth forward is apt to result in implication of neighbouring organs or the peritoneal cavity .

Recognition of these serious possibilites has led french surgeons to call the anterior aspect the 'face dangereuse' of the rectum (Goligher et al ,1984).

In the male, the extraperitoneal rectum is related from below upwards to the prostate, seminal vesicles, vasa deferentia, ureters and Bladder Wall.

The intraperitoneal rectum has immediately incontact with it loops of small gut and possibly the sigmoid colon, and more remotely across the rectovesical pouch it is related to the upper parts of the seminal vesicles and bladder (Goligher et al , 1984).

In the Female , the extraperitoneal rectum lies immediately behind the posterior vaginal wall. The intraperitoneal rectum is related across the pouch of Douglas to the upper part of the vagina and to the uterus, but occupying the pouch and separating it from the structures are frequently coils of small intestines, the ovaries, uterine tubes and the sigmoid colon (Goligher et al , 1984). Laterally above the paritoneal reflection are viscera, mainly loops of small intestine (small gut) uterine appendages and the sigmoid colon. Below the reflection it is separated from the side wall of the pelvis, the ureters and iliac vessels by the connective tissue and fascia of the lateral ligament .

At a still lower level the levator ani muscle becomes a close lateral relation, separated to some extent by the lower part of the lateral ligament(Goligher et al , 1984).

The curves of the Rectum. Anteroposterior Curves

Firstly rectum proceeds downward, then downward and forward . Lateral Curves usually there are three of them., the uppermost and the lower most being both convex to the right, the middle one convex to the

left . The angulation of the bowel on the concave side of each of these curves is accentuated by infoldings of the mucosa known as Houston's Valve (Houston,1830) .

There is thus an upper and lower valve on the left side and a middle valve on the right . The last-named, which is also known as Kohlrausch's fold, (Goligher et al,1984)is by far the most prominent as a rule. It is situated about the same level as the anterior peritoneal reflection . The part of the rectum lying below the right valve and the peritoneal reflection has a wide lumen than has the intraperitoneal part; this dilated lower portion is known as the ampulla of the rectum (Goligher et al , 1984).