Motility Studies After Colorectal Surgery

Thesis submitted for the partial fulfilment of MD degree in General Surgery

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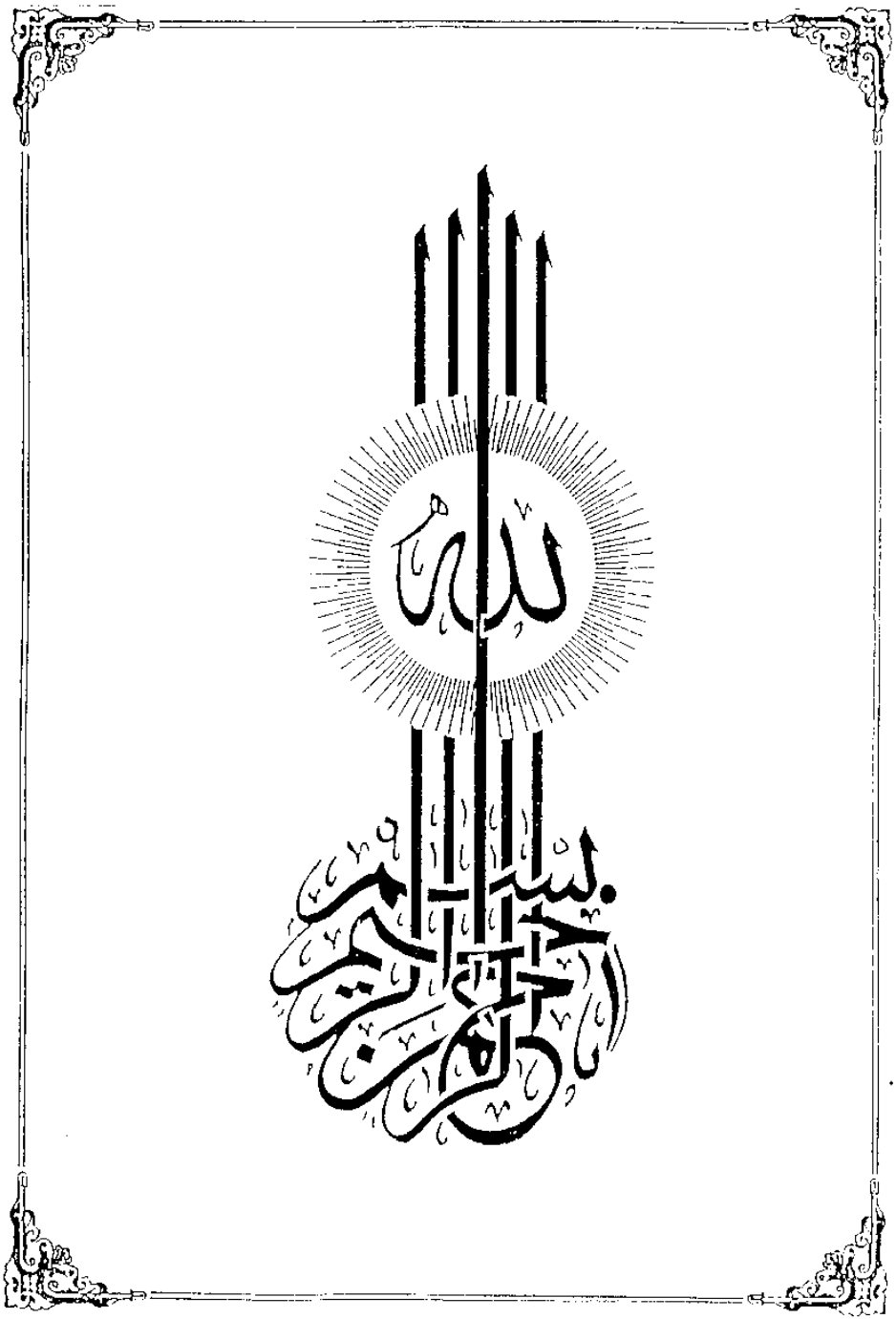
Cairo 1990

Table of contents



Preface

AIM OF THE WORK

The main aim of this work was, to study the clinical post-operative bowel function following a number of very low rectal resections and restoration of intestinal continuity. We included in the study patients who had low anterior resections, low anterior resection/coloanal anastomosis with the addition of a colonic pouch as well as ileal pouch anal anastomosis. These operations are known to result in poor postoperative function in some of the patients. We wanted to study such patients using physiological anorectal testing (in addition to clinical methods), to elucidate factors contributing to good or poor clinical postoperative bowel function.

We also wanted to know, through such physiological studies, whether the techniques used in the Surgical Unit, The London Hospital, such as the use of stapling techniques to establish the pouch anal anastomosis in cases of pelvic ileal pouches, or the concept of addition of a colonic pouch to low rectal resections, had improved the functional results of these operations.

Finally we hoped that the lessons learned from this study would help us relate the clinical function (good or poor) to design of these sphincter saving resections, to see if these can be improved further.

Acknowledgments

ACKNOWLEDGMENTS.

I would like to express my deepest honest gratitude to Professor Abdalla for the considerable effort he went through to make this work possible in the first place. He was a source of constant encouragement, valuable direction and guidance throughout all my surgical career.

I am deeply grateful to Professor Sedki for his never ending fatherly care, encouragement, kind supervision and for the valuable directions he gave me.

I will always be indebted to both of them for the excellent training I received under their masterly craftsmanship.

I am indebted to Professor Williams for giving me the chance to work in The Surgical Unit, The London Hospital, where I carried out this work, and benefited enormously from the first class colorectal research facilities, scientific atmosphere and clinical practice done there. I am truly grateful for his support, advice and teaching about Colorectal Surgery during that period, which I will always remember as a most fruitful, productive and enjoyable time.

Mr. Nicholls, consultant Surgeon, St. Mark's Hospital, kindly allowed me to study some of his ileal and colonic pouches. I very much appreciate his kindness.

I will always remember all my friends in The Surgical Unit, The London Hospital, who helped me during my stay in England and who above all gave me their sincere friendship, foremost among them are Mr Hallan and Mr Waldron who taught me, all

I know about anorectal physiology. Both provided me with many photographs of dynamic integrated proctography. Other friends and colleagues, in particular Dr Grahn have been most helpful, providing valuable assistance in my work and in teaching me how to use the department's computer and photographic facilities.

Finally I am deeply grateful to my wife for her endless patience and the enormous support she gave me.

Liya Marzouk

Literature review

Part one: Treatment options in mid and low rectal cancer

Contents of the review of treatment options in mid and low rectal cancer.

SECTION ONE:
HISTORICAL REVIEW.

The modern surgical treatment of rectal cancer can be traced to Ernest Miles (Miles WE 1908), whose work on the modes of spread of rectal cancer led him to perform the first adequate cancer operation for rectal cancer, the abdominoperineal resection. His work established the operation in Britain and America, and although the operation was first performed by Czerny in 1884 (Czerny V 1884), out of necessity to complete a difficult sacral resection. In America C.H. Mayo apparently described this operation in 1904 (Biggers OR 1986). Nevertheless it was Miles who gave the operation its present status as the gold standard operation for rectal cancer against which every new operation was compared.

In 1920 Grey turner supported the concept that a two stage perineo-abdominal excision was better tolerated by the patient more than the single stage Miles abdominoperineal (Goligher JC 1980)[3]. Gabriel (Gabriel WB 1934) subsequently developed the single stage perineo-abdominal, his rationale for performing a perineo-abdominal rather than an abdominoperineal excision was that he thought that for a surgeon experienced in perineal dissections (which was widely practised before and after Miles published his work), a perineo-abdominal was much easier to perform. However this operation never became popular for in the mid and late thirties surgeons outside St Mark's hospital were becoming more experienced in abdominal operations rather than perineal excisions and for them it was easier to perform the bulk of dissection first from the abdomen and since the perineoabdominal involved a preliminary abdominal

exploration many felt that it is pointless to abandon abdominal dissection only to return to it later. The next logical step was to perform both the abdominal and perineal phases simultaneously, this was done by Kirschner (Kirschner M 1934) and Devine (Devine H 1937), but it is generally referred to as Lloyd-Davies operation who refined and popularized the technique (Lloyd-Davies OV 1939).

The desire to preserve anal sphincters has always been there, as can be seen from the very early trials to do so using eversion pull through techniques at the turn of the century (Weir RF 1901). The work of Miles, and his description of three zones of cancer spread, including a downwards zone towards the sphincters (Miles WE 1908), influenced surgeons strongly, to the extent that abdominoperineal resection prevailed until the beginning of the last decade. The resurgence of different forms of sphincter saving resections (mainly for upper third of rectum lesions) can be traced much earlier than the last decade (Devine H 1937, Babcock WW 1939, Bacon HE 1945, Dixon CF 1939). This followed the work of several authors who documented that the extent of any distal spread of rectal cancer was indeed small in all cases with any hope of cure (Black WA and Waugh JM 1948, Grinnell RS 1954, Dukes CE and Bussey HJR 1958). Eversince, Various techniques have been used to resect cancer while preserving anal sphincters (Parks AG 1966, Donaldson GA et al 1966, Localio SA and Stahl WH 1969, Mason YA 1970).