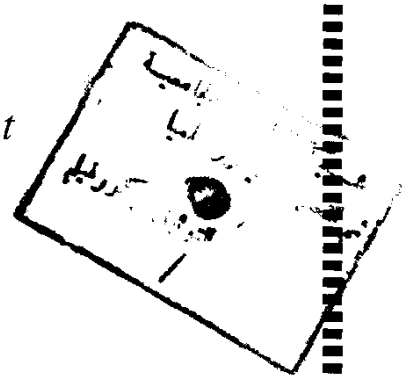
SURGICAL MANAGEMENT OF ULCERATIVE COLITIS

Essay

Submitted for partial fulfillment of Master Degree in

GENERAL SURGERY



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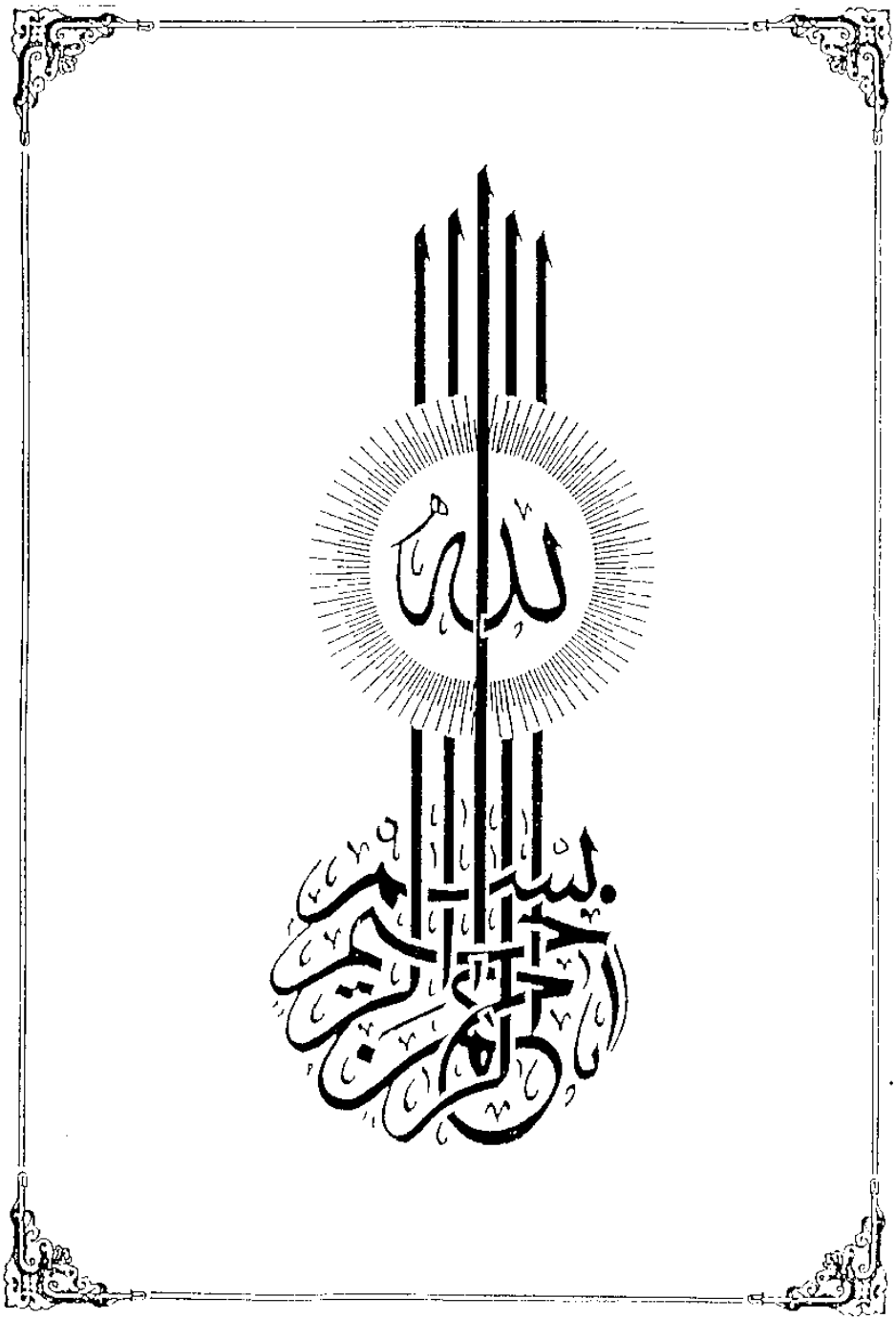
1994

بسم الله الرحمن الرحيم

وقل رب زدني علماً

صدق الله العظيم



To The Sole Of
My Parents

Acknowledgement

It is with deep appreciation and with much gratitude that I acknowledge , in the first place , the great help of prof. Dr. Kamel M. Said , Professor of General Surgury , Faculty of medicine, Ain Shams university , to the noble character of whom I owe a lot. I have been most forunate in having his continoued guidance in supervising every section of the essay , his constant encourgement through the study and his sincere and valuable advice were indispensable.Iam definitly indebted to him more than I can expect .

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Introduction

Although most patients with ulcerative colitis escape surgery, 2% of these with distal colitis and up to 33% of these with extensive disease will require an operation ***(Michael and Norman, 1994).***

It's important that surgeons are familiar with fundamental aspects of the medical management of this condition, so that they understand reasons for referal as well as the indication for surgery .

In this study we would lay stress on the indications for surgery in ulcerative colitis and most up dated operations for this conditions.

Embryology of Large Intestine

Embryology of Large Intestine

The primitive gut is at first a fairly straight tube extending throughout the length of the body, its whole length supported by a dorsal mesentery attached in the midline in front of the aorta . Three gut arteries leave the aorta and pass ventrally to supply the tube .

The most cranial passes in the dorsal mesogastrium to supply the foregut . The next passes through the dorsal mesentrey to supply the midgut, and the last passes through the dorsal mesocolon to supply the hindgut . They are the coeliac, the superior mesentric and the inferior mesentric arteries respectively .

By the end of the sixth week, the liver has enlarged greatly and the gut has elongated, both to such an extent that the growing abdominal walls cannot accomodate them. A loop of gut extrudes into the umbilical cord; it is called the "Physiological hernia" . The loop remains in the umbilical cord for a full month . At the end of tenth week the abdominal contents and the hernia is reduced ***(Snell, 1975)*** . The herniated loop of gut is that supplied by the superior mesentric artery and it is defined as the Midgut . It produce all the small intestine and the proximal part of the colon, almost as for as the left colic flexure, the apex of the loop is at the attachment of the vitello-intestinal duct, the site of Mickel's diverticulum . Just before the herniation occurs, a diverticulum appears at the caudal end of the bowel loop, this is the beginning of the formation of the caecum . At first the diverticulum is conical, later the

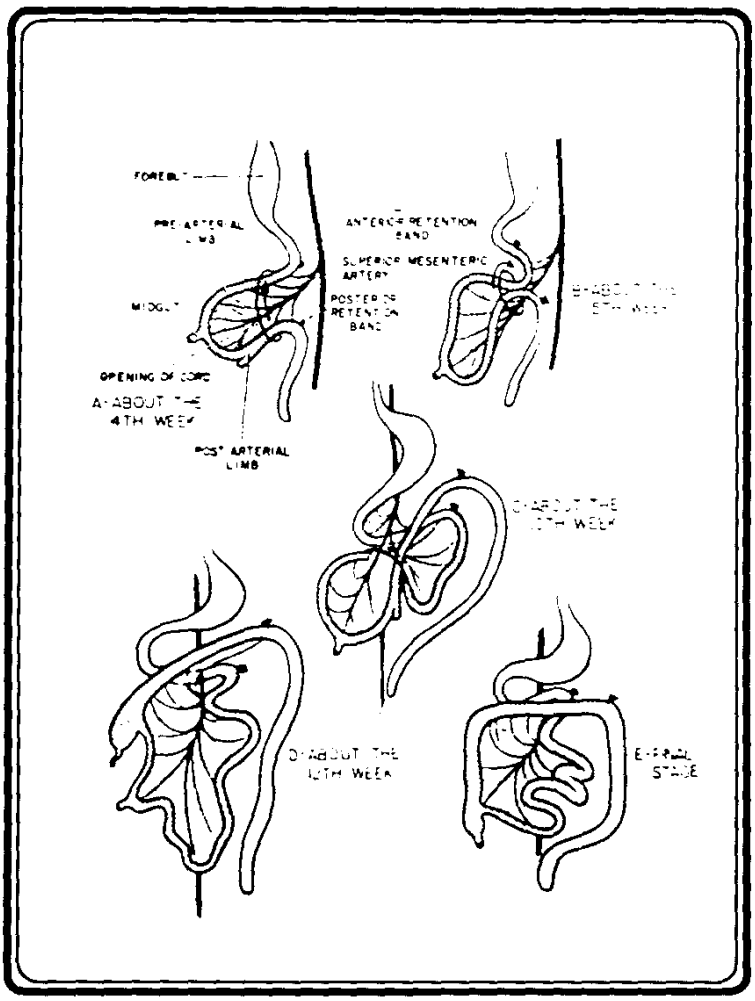

Figure (1)

Normal rotation in embryo at 4th or 5th week. After Haller and Morgenstern, 1964

upper part expands and forms the caecum .While the lower part remains rudimentary and forms the appendix . After birth the wall of the cecum grows unequally and the appendix comes to lie on its medial side ***(Snell, 1975)***.

The rotation of the midgut

As the loop of the midgut in the physiological hernia returns to the abdominal cavity it rotates so that the distal limb goes up in the left and the proximal limb goes down on the right, that is, to the observer looking at the pent of the abdomen, in an anti-clockwise direction . Rotation of the mid gut loop occurs around the axis of the superior mesenteric artery, so in the adult the branches to the proximal loop come off its left side "jejunal and ileal arteries" while the three branches to the distal loop "colic arteries" leave its right side . The total rotation of the midgut loop is 270 degrees counter clockwise ***(Last,1978)*** . "figure 1"

The dorsal mesentery of the distal loop of the midgut hinges like a door across from the mid line to the right .

Its two layers come into contact with the parietal peritoneum in the right paravertebral gutter, so that three layers lie in the floor of the right infracolic compartment . The deeper two fuse and are absorbed, the anterior (originally the right) layer remaining to floor in the right infracolic compartment , with the colic vessels lying immediately deep to it and infont of every thing else on the posterior abdominal wall .

The dorsal mesentery of the most distal part of the distal loop, pulled across transversely, doesn't fuse completely with the parietal peritoneum and persists, with the middle colic artery between its layer, as the transverse mesocolon ***(Last, 1979)*** .

Movement of the hindgut

As the midgut loop returns to the abdominal cavity, the hindgut swings on its dorsal mesocolon like a door across to the left . The two layers of the mesocolon thus come to lie on the parietal peritoneum of the left paravertebral gutter . The left infra colic compartment is floored in by three layers of peritoneum . the two layers fuse and are absorbed, the anterior (originally the right) layer persist, with the left colic vessels immediately beneath it and lying in font of every thing else on the posterior abdominal wall . At the pelvic brim fusion of the intestinal edge of the sigmoid mesocolon of the adult ***(Last, 1978).***

Anatomy

Anatomy

The Colon

General configuration

The colon differs from small intestine in that it is characterized by a saccular or haustral appearance, it contain three taenia bands, and it has appendices epiploicae ; a series of fatty appendages located on the antimesentric surface of the colon . The Taenia bands are longitudenal muscle running along the colon from the base of the appendix. They merge in the distal sigmoid colon, where the longitudenal fibres continue through the entire length of the rectum . The three taenia bands are named according to their relation to the transverse colon .Taenia mesocolica, which is attached to the mesocolon; taenia omentalis, which attached to the greater omentum; taenia libra, which has no attachment . These bands are about one sixth shorter than the intestine and are believed to be responsible for sacculations ***(Morson et al., 1972).*** The transition from the sigmoid colon to the rectum is gradual one. It is characterized by the taenia coli spreading out from three distinct bands to a uniformly distributed layer of longitudenal smooth muscle that is thicker on the front and back than on each side. This account for the lateral flexures ***(Morson et al., 1972).***

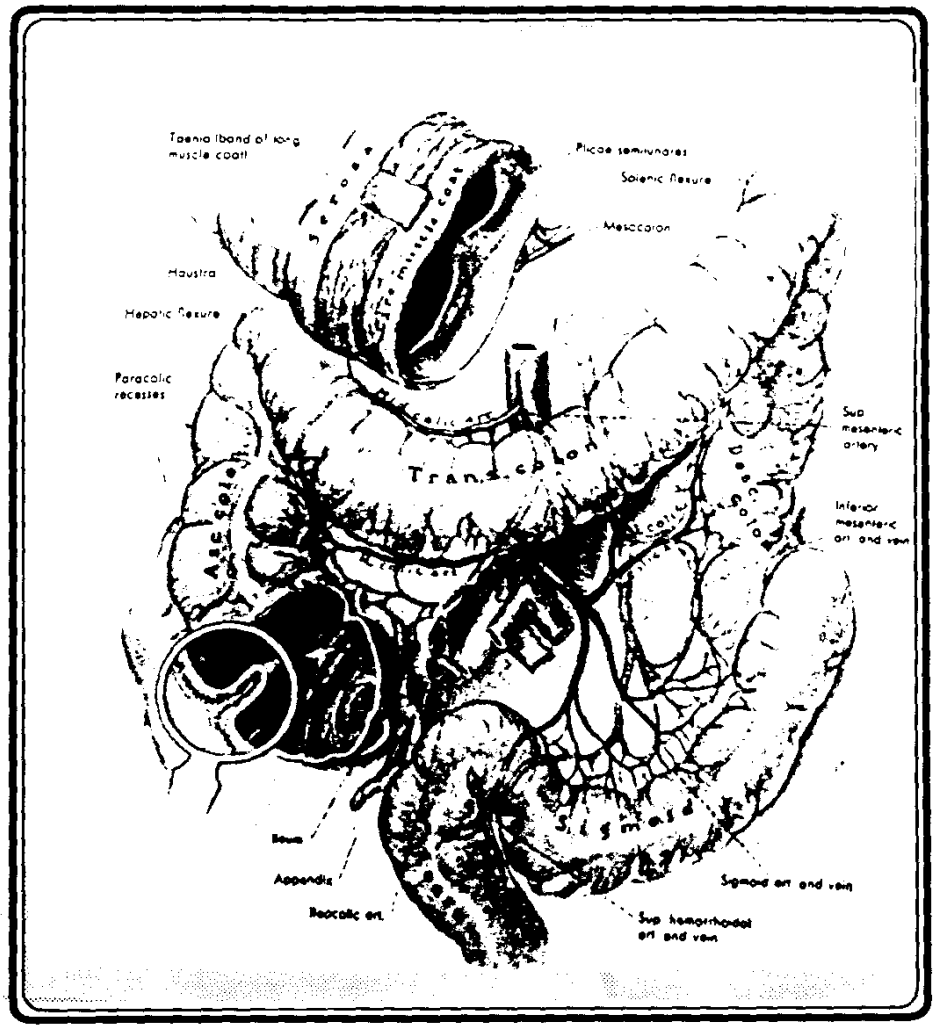

Fig. 2

Large intestine and its blood supply.
After Phillip, 1992.