COLONIC POLYPOSIS

THESIS

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(GENERAL SURGERY)

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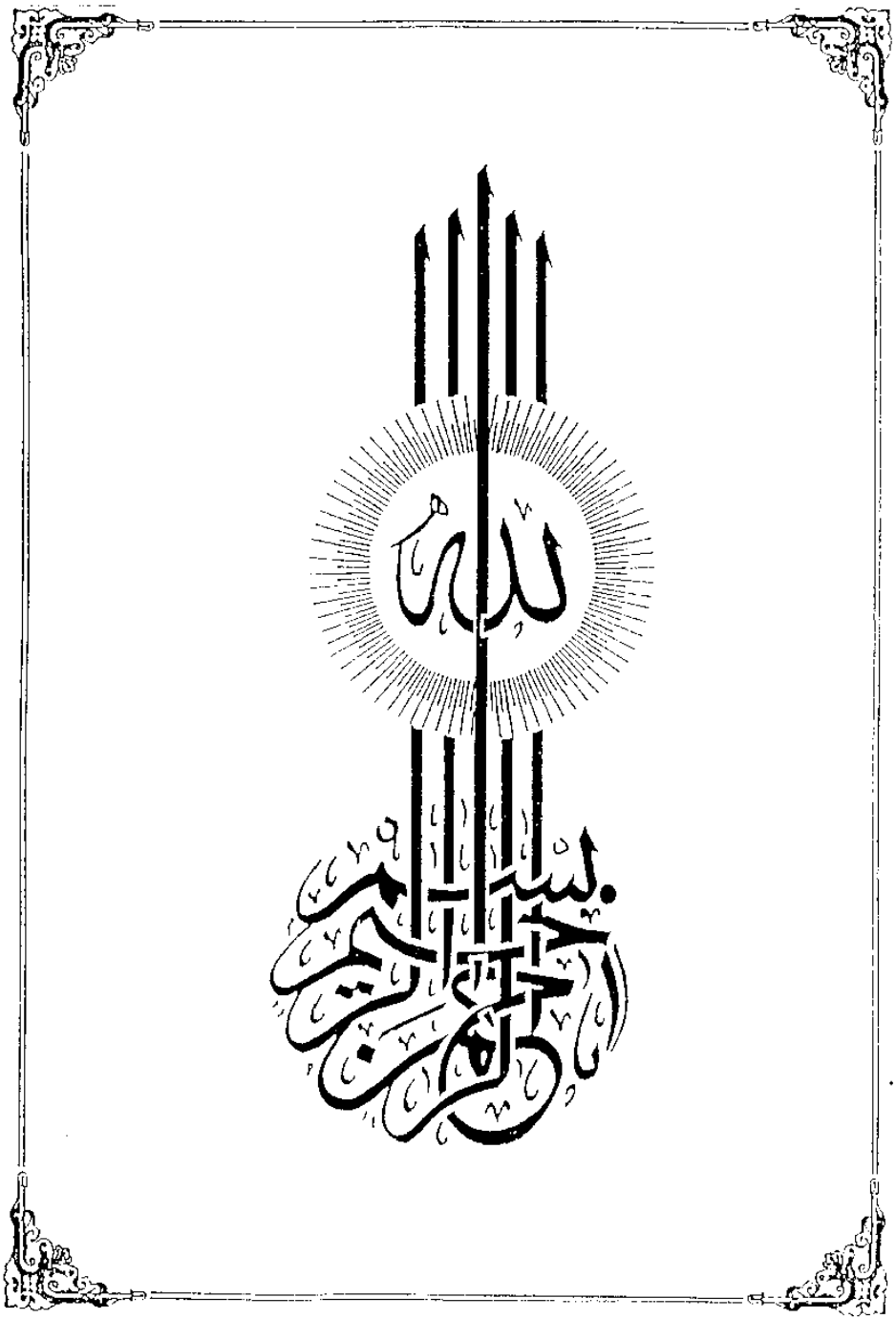

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INTRODUCTION

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Colonic polyposis has a wide range of interest both in Internal Medecine and Surgery.

All over the world it is a matter of interest because of the malignant potentiality of familial polyposis and its silent growth which delays its discovery. In Egypt schistosomiasis is one of the major health problems since it heads the list of communicable diseases, it is still affecting the national economy.

Schistosomal colonic polyposis is one of the pathological features of intestinal schistosomiasis and because of its prevalance in Egypt its incidence is high, it was reported by Cheever et al. (1978) to be 15.4 %.

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SURGICAL ANATOMY OF THE COLON

The colon extends from the ileo caecal valve to the recto sigmoid junction (Polglase and Hughes, 1981). It begins in the right iliac fossa, distal to the cecum and terminantes opposite the body of the third sacral vertebra, where it becomes continuous with the rectum.

The colon is not more than one fourth of the length of the small intestine and is fixed much more securely . Because of its fixation, its position is much more constant. Two of the subdivisions, the transverse colon , and sigmoid colon, however, are suspended by mesocolon , and have a great range of mobility. (Anson and McVay, 1971).

The particular distinguishing feature is the arrangement of the outer longitudinal muscle, which instead of completely surrounding the circular muscle as it does through most of the digestive tube, is arranged in three narrow bands called teniae (Taeniae) coli. Between the teniae the wall presents a series of permanent saccula-tions, the haustra coli. (Hollinshead, 1974).

It is due to the arrangement that the taeniae shorten the bowel. Another distinguishing feature is the presens of numerous pedunculated bodies, the appendices epiploicae, which are attached to the outer serous layer of the colon. They sometimes attain considerable size from the amount of fat deposited within them, and are largest in the sigmoid, this fact being an important distinguishing feature of that segment.

The size of the colon diminishes gradually from a diameter of 6 cm. at its cecal extremity to 2.5 cm. at the termination of the sigmoid colon, which is usually the narrowest. (Anson and McVay, 1971).

The Caecum :

This blind pouch of the large intestine projects downwards from the commencement of the ascending colon, below the ileo-caecal junction. Over the front and on both sides, it is covered with peritoneum. The serous coat continues up behind it and is reflected downwards to the flocr of the right iliac fossa.

The caecum lies on the peritoneal floor of the

right iliac fossa, over the iliacus and psoas fascia and the femoral nerve. Its lower end lies at the pelvic brim. When distended its anterior surface touches the parietal peritoneum of the anterior abdominal wall, when collapsed coils of ileum lie between the two.

As in the rest of the colon, the longitudinal muscle of the caecum is restricted to three flat bands, between which the circular muscle layer constitutes the sacculated wall of the gut. The flat bands of longitudinal muscle (taeniae) lie one anterior, one posteromedial and one posterolateral. All three converge on the base of the appendix. (Last, 1978).

Ascending colon :

The ascending colon lies between the caecum and the right colic flexure, the inferior margin usually is tangent to the iliac crest, and the upper margin is on a horizontal plane where the right tenth rib crosses the midaxillary line. It is from 12.5 to 20 cm. in length.

Posteriorly the ascending colon is related to the iliac fascia over the iliacus muscle, to the fascia covering the quadratus lumborum, and to the lower part of

right kidney. It is separated from the kidney by the extraperitoneal and perirenal fat, and the anterior layer of perirenal fascia. Its medial aspect is related to the psoas muscle and the descending duodenum. The ascending colon separates the right paracolic gutter from the right inframesocolic compartment, and is bound to the posterior abdominal wall by the peritoneum clothing its posterior surface.

Right colic (Hepatic) flexure :

The right colic flexure, formed by the junction of the ascending colon and the transverse colon, lies under the ninth and tenth costal cartilages in the interval between the inferior surface of the right lobe of the liver, and the anterior surface of the lower pole of the right kidney. It is related by its medial surface to the fundus of the gall bladder anteriorly, and to the descending duodenum posteriorly. A peritoneal band from the gastrohepatic (lesser) omentum, or hepatodudenal ligament, sometimes passes downward from the right extremity to the flexure, and is known as the hepatocolic ligament. Not infrequently a peritoneal fold leaves the peritoneal surface of the

right lobe of the liver to spread out over the colic flexure. The right flexure occasionally has an adhesion, the "cystico colic ligament" between itself and the gall bladder.

Transverse colon :

The transverse colon crosses the abdominal cavity from the right to the left colic flexure with a downward curve. In recumbency it reaches its lowest position in the midline at, or a little below the umbilicus. In many patients it lies at a much lower level because of its excessive length, as in cases of undescended caecum, and in excessive length of the transverse mesocolon.The right and more fixed portion of the transverse colon is related to the gall bladder. The left segment is related closely to the greater curvature of the stomach and ascends slightly as it approaches the splenic flexure.

Between the flexures the transverse colon is connected to the posterior abdominal wall by the transverse mesocolon.

Transverse mesocolon :

The transverse mesocolon forms a horizontal partition across the abdominal cavity, suspending the transverse colon from the posterior abdominal wall , and separating the cavity of the omental bursa and the supramesocolic structures from the inframesocolic compartment. The posterior parietal attachment of the transverse mesocolon is to the anterior surface of the head, neck , and body of the pancreas, but it may extend farther to the right and cross the anterior surface of the descending duodenum.

Left colic (splenic) flexure :

because the left lobe of the liver is small. The left colic flexure is placed higher than the right, and its angle is more acute than that of the hepatic flexure. The splenic flexure may overlie the left kidney any where from its upper to its lower pole it is located deeply under cover of the costal margin and is partly overlied by the stomach.

The upper and forward aspects of the flexure recieve

an attachment from the left margin of the greater omentum and the posterior aspect is attached to the pancreas by the left extremity of the transverse mesocolon.

From the lateral aspect of the flexure the peritoneum passes to the diaphragm as the left phrenicolic ligament. The inferior pole of the spleen rests upon the ligament. (Anson and McVay, 1971).

The descending colon :

Less than 12 inches (30 cm) long, extends from the splenic flexure to the plevic brim, and in the whole of its course is plastered to the posterior abdominal wall by peritoneum. It lies on the lumbar fascia and the iliac fascia, being connected to them by the fibrous tissue of the extraperitoneal fascial envelope of the abdomen . It ends at the pelvic brim about 2 inches (5 cm) above the inguinal ligament, the part lying in the left iliac fossa from the iliac crest to pelvic brim is sometimes called the iliac colon.

The three taeniae coli in continuity with those of the transverse colon, lie one anterior and two posterior (medial and lateral). Appendices epiplociae are numerous. (Last, 1978).

The sigmoid colon :

So called because it frequently takes the form of the Creek letter (sigma) (Hollinshead, 1974). It extends from the iliac colon at the pelvic brim to the commencement of the rectum in front of the third piece of the sacrum. It is completely invested in the peritoneum and hangs free on a mesentery, the sigmoid mesocolon. It is usually less than 18 inches (45 cm) long, though great variations in length are common. There is no change in the gut wall between terminal sigmoid colon and upper rectum. The distinction is only of peritoneal attachment. Where there is a mesentery the gut is called sigmoid . Where the mesenery ceases the gut is called rectum.

Like the rest of the large intestine , the commencement of the sigmoid colon is sacculated by three taeniae coli, but these muscular bands are wider than elsewhere in the large gut, and meet to clothe the terminal part of the sigmoid in a complete longitudinal coat. The sigmoid colon possesses well developed appendices epiploicae. It lies usually in the pelvic cavity, coiled in front of the rectum, lying on the peritoneal surface of the bladder (and uterus). (Last, 1978).

Sigmoid mesocolon :

Which has a V-shaped attachment with the apex near the point of division of the left common iliac artery , the left limb ascending on the medial side of the left psoas and the right limb passing into the lesser plevis to end at the third sacral vertebra. The longest part of the sigmoid mesocolon is the centre, and it shortens towards the ends of the loop. The left ureter runs into the lesser pelvis behind its apical attachment, and the sigmoid and superior rectal vessels run respectively in the left and right limbs of its mesentery. An intersigmoid peritoneal recess is commonly present in infancy , and tends to disappear later.It lies behind the apical attachment of the mesocolon with its orifice looking downwards, and the peritoneum on its posterior wall covers the ureter at the point where it is crossing the bifurcation of the left common iliac artery. to the left the sigmoid colon lies on the structures in the lateral wall of the lesser pelvis. The external iliac vessels, the obturator artery and nerve, the ovary in the female and the ductus deferens in the male.