COLONIC POLYPS

EASSAY

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THE MASTER DEGREE IN

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BY

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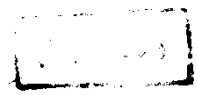

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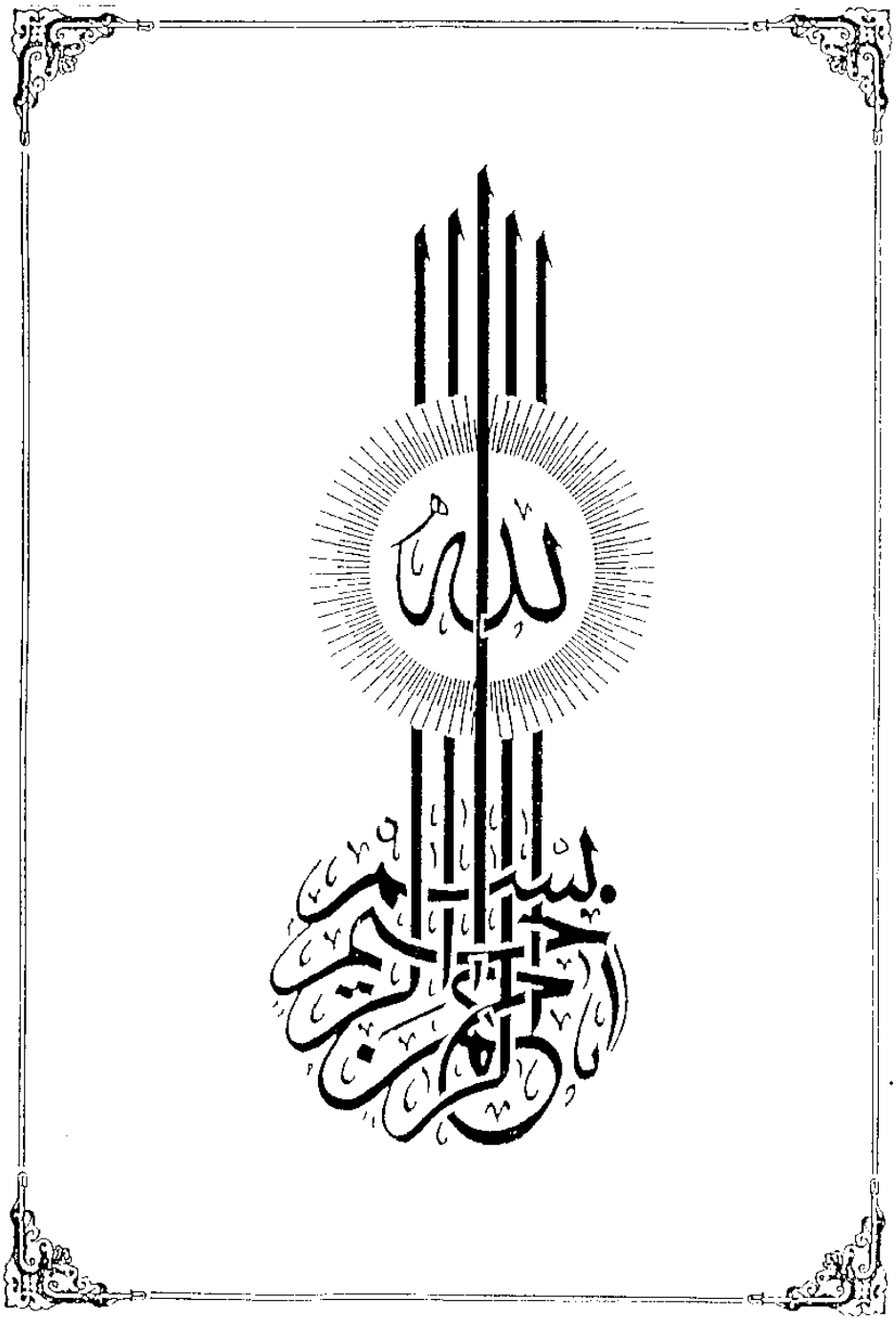

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INTRODUCTION

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Colonic polyposis is a common diserder met with both in General surgery and Internal Medicine.

The polypoid nature of such lesions is a manifestation of different pathologic entities with different malignant potential and this, in turn greatly modifies their lines of treatment which ranges from simple breaking off by the fingers in Juvenile polyps up to total colectamy or even total proctocolectomy in familial polyposis.

All over the world it is a matter of interest and much of this interest was directed to familial colonic polyposis as being the surest Known premalignant lesion with a malignant potential of 100% and this directed the attention towards their early detection and treatment.

In Egypt, schistosomal colonic polyps reprsent the most prevalent type of colorectal polyps with an incidence reaching up to 15.4% giving much morbidity to our farmers and this adds more and more to our interest in colonic polyps.

ANATOMY

Surgical Anatomy Of The Colon

The large intestine extends from the end of the ileum to the anus, comprises the caecum (and appendix), colon, rectum and anal canal, and is on the average about 135 cm long. Its calibre is greatest at its commencement at the caecum, and gradually diminishes as it is traced distally, but again becomes more dilated in the lowermost part of the rectum just above the contracted anal canal. (Goligher, 1984).

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 caecum and terminates 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 Mc Vay, 1971).

The striking feature in the wall of the colon is the concentration of the outer longitudinal muscle coat into three narrow bands or taeniae, relatively shorter than the bowel itself, so that the latter is puckered with the production of the typical haustrations or sacculations. The three taeniae commence at the base of the appendix, which has a complete longitudinal

coat. In the distal sigmoid they eventually coalesce to provide a complete longitudinal muscle coat for the rectum, though sometimes the process of fusion is complete before the rectum is reached. Between the taeniae the colon wall is extremely thin and this accounts for the great and sometimes amazing capacity of this part of the bowel to undergo distension when obstructed, the caecum being particularly notable in this respect. (Goligher, 1984).

Another important feature is the presence 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. (Anson and Mc Vay, 1971).

The Caecum

It is the large blind pouch, situated below the ileo - caecal valve, in which the large intestine commences. Its blind end is directed downward, and its open end upward, communicating directly with the colon.

Its size is variously estimated by different authors, but on the average it may be said to be two and a half inches in length and three in breadth. (Gray, 1977).

Position & Relations:

The caecum lies on the peritoneal floor of the right iliac fossa, over the iliacus and psoas fasciae 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. (last, 1985).

Peritoneal Covering and Mobility :

As a rule, it is entirely enveloped on all sides by peritoneum, but in 6% of cases the peritoneal covering is not complete, so that a small portion of the upper end of the posteior surface is uncovered and connected to the iliac fascia by connective tissue. The caecum lies quite free in the abdominal cavity and enjoys a considerable amount of movement, so that it often becomes herniated down the right inguinal canal, and has occasionally been found in an inguinal hernia on the left side. (Gray, 1977).

Retrocaecal Peritoneal Space:

The retrocaecal peritoneal space may be shallow or deep according to the distance of the retrocaecal fold from the lower end of the caecum. The space may be continuous across the iliac fossa or it may be interrupted by a peritoneal fold from one or other side of the posterior wall of the caecum. Often there are

two folds, forming between them a retrocaecal fossa in which the appendix may lie.

Taeniae Coli:

As 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 postero -medial and one postero -Lateral. All three converge on the base of the appendix. (Last, 1985).

The Ascending Colon

The ascending colon is smaller than the caecum, with which it is continuous. It passes upward, from its commencement at the caecum, opposite the ileo - caecal valve, to the undersurface of the right lobe of the liver, on the right of the gallbadder, where it is lodged in a shallow depression, the impressio colica; here it bends abruptly inward to the left, forming the hepatic flexure. (Gray, 1977).

Length:

It is from 12.5 to 20 cm. in length.

Position & Relations:

Its 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. 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.(Anson and Mc Vay, 1971).

Peritoneal Covering:

It is retained in cantact with the posterior wall of the abdomen with peritoneum, which covers its anterior surface & sides. (Gray, 1977). The serous coat runs laterally into the paracolic gutter and medially into the right infracolic compartment. (Last, 1985). Sometimes the peritoneum almost completely invests the ascending colon, and forms a distinct but narrow mesocolon. (Gray, 1977). This of significance, because when with a mesentry the ascending colon falls away from the loin and drags the caecum and hepatic flexure with it. Though the

possession of such a mesentry may render its owner uncomfortable; it plays an important part in volvulus of the caecum and ileo caecal intussusception. (Mc Gregor, 1986).

Taeniae Coli:

The taeniae coli lie in line with those of the caecum, anterlorly postero laterally and postero - medially. the ascending colon is sacculated, due to the three taeniae being " too short" forthe bowel (last, 1985).

The Right Colic 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 gallbladder anteriorly, and to the descending duodenum posteriorly. A peritoneal band from the gastrohepatic (lesser) omentum, or hepatoduodenal ligament, sometimes passes downward from the right extremity to the flexure, and 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 (Anson and Mc Vay, 1971).

The Transverse colon

It is the largest part of the large intestine, passes transversely from right to left across the abdomen, opposite the confines of the epigastric and umbilical zones, into the left hypochondriac region, where it curves downward beneath the lower end of the spleen, forming the splenic flexure.

In its course it describes an arch, the concavity of which is directed backward toward the vertebral column and a little upward; hence the name transverse arch of the colon (Gray, 1977).

Length:

Normally over 18 inches (45 cm) in length. (Last, 1985).

Position & Relations:

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 bacause of its excessive length as in cases of undescended caecum, and in excessive length of the transverse mesocolon. (Anson and Mc Vay, 1971).

It is in relation, by its upper surface, with the liver and gall - bladder, the great curvature of the stomach, and the lower and of the spleen; by its undersurface, with the small

intestine; by its anterior surface, with the anterior layers of the great omentum and the abdominal parietes; its posterior surface on the right side is in relation with the second portion of the duodenum, and on the left is in contact with some of the convolutions of the jejunum and ileum. (Gray, 1977).

Transverse Mesocolon:

The transverse colon is completely invested in peritoneum; it hangs free on the transverse mesocolon, which is attached from the inferior pole of the right kidney across the descending (Second)part of the duodenum and pancreas to the inferior pole of the left kidney.

Toeciae Coli:

Due to the looping downwards & forwards of the transverse colon from the flexures, which lie well back in the paravertebral gutters, some rotation of the gut wall accurs at the flexures, and the anterior taenia of ascending and descending colons lie posteriorly, while the other two lie anteriorly, above and below. (Last, 1985).

The Left Colic (Splenic) Flexure

Because the loft labe 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