

CARCINOMA OF THE RECTUM

An Essay

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OF THE MASTER DEGREE OF
(GENERAL SURGERY)

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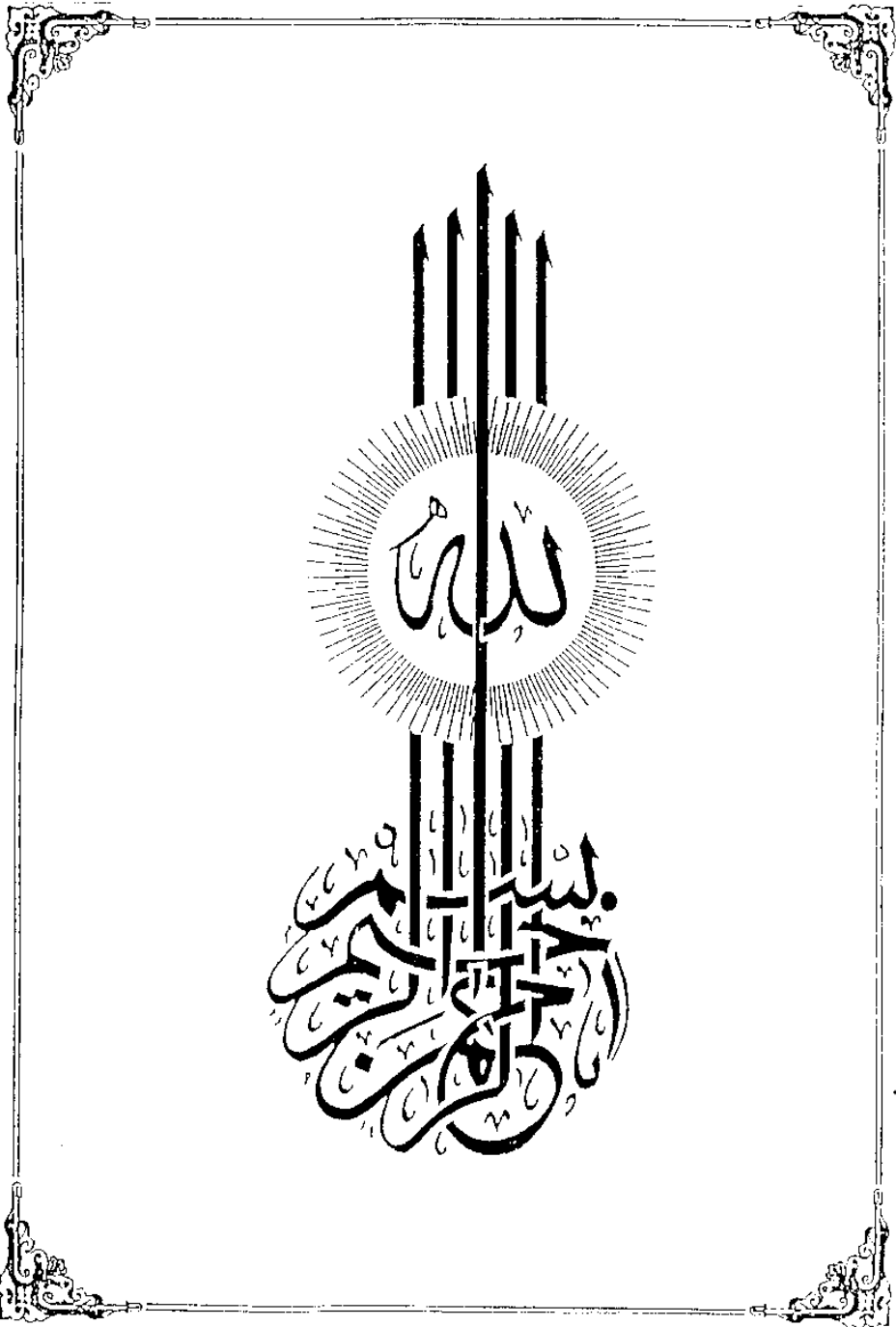
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الْأَذْكُرُ لِلَّهِ طَبْعُ الْفُلُوحِ



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INTRODUCTION

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Rectal carcinoma is one of the most important malignant diseases endangering our life. Colorectal carcinoma is one of the three or four really common cancers as regard its incidence.

Recent epidemiological data suggest that this disease is largely a preventable one, as its main etiological agents are precancerous benign lesions and dietary factors.

This essay includes an account on the anatomy of the rectum and it explains the possible etiological agents, Pathology, diagnosis and screening methods aiming at earlier diagnosis of the disease. It also discuss the different lines of treatment, of which the most effective is surgery.

Finally the prognosis and prognostic factors, as well as the problem of recurrence of the disease.

AIM OF THE WORK

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This essay aims to concentrate light on the possible efforts to reach early diagnosis of cancer rectum, and so allows early interference to give a good chance to delay and minimise the bad hazards of this serious disease.

The respectation of patient complaint as regard his bowel symptoms, taking good history, perfect examination and proper investigations can help to reach early diagnosis. This beside the screening methods which allow early diagnosis in the community.

This work aims also to spot light on sphincter saving surgical procedures to preserve a good functioning anal sphincter after operation.

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ANATOMY OF THE RECTUM

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ANATOMY OF THE RECTUM

The rectum is the direct continuation of the pelvic colon opposite the third sacral piece. It follows the curvature of the sacrum and coccyx and is only 2 - 3 cm in front of and below the tip of the coccyx by turning downward and backward through the levator ani muscles to become the anal canal.

The rectum measures about 13 - 15 cm and its smallest diameter is at the rectosigmoid junction, below which it expands to form the ampulla of the rectum, then it narrows below again (Goligher, 1980).

The upper and lower ends of the rectum lie in the midline, but the ampulla is convex to the left. Three lateral curves are thus produced, each being marked on the interior of the ampulla by a horizontal shelf, these are named valves (the rectal valves of Houston). They lie, two on the left and one on the right between them (Last, 1977).

The upper third of the rectum is invested by peritoneum completely. As the rectum passes deeper in the pelvis, more fat is interposed between the rectal musculature and the peritoneum. The mesorectum, which suspend the rectum from its posterior wall, comes off more laterally, leaving bare progressively more the

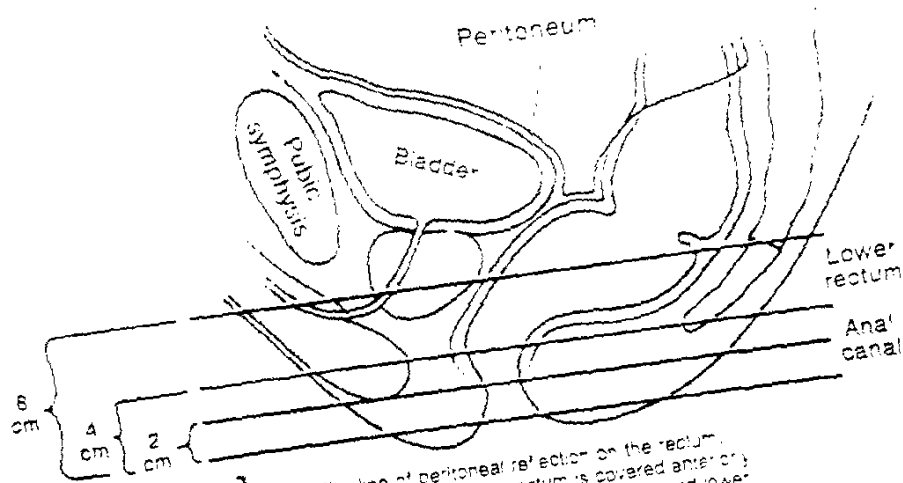


Fig.1. The line of peritoneal reflection on the rectum, lateral view in the male. More of the rectum is covered anteriorly than posteriorly. The measurements of the anal canal and lower rectum from the anal verge are approximate.

(After Skandalakis et al., 1983).

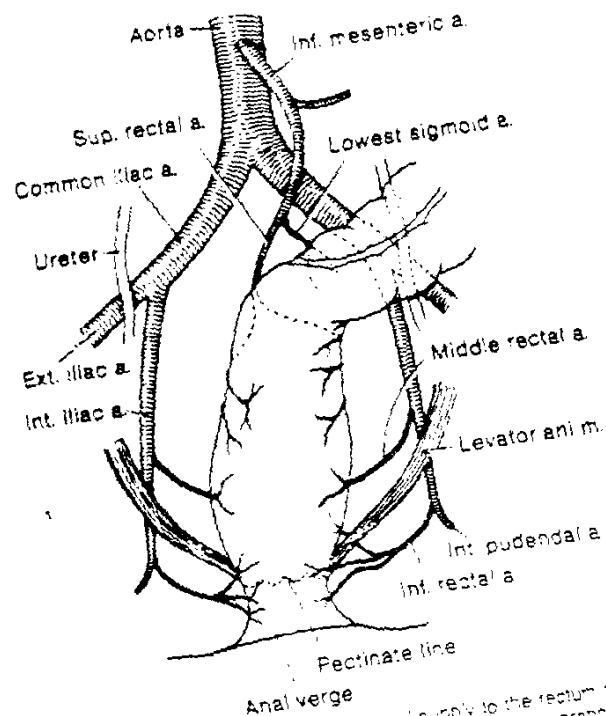


Fig.2 Diagram of the arterial supply to the rectum and anus. The median sacral artery supplying a few small branches to the posterior wall of the rectum is not shown in this figure.

posterior rectal wall. The peritoneum finally leaves the rectum passing anteriorly and superiorly over the bladder in male to create the rectovesical, pouch, and over the uterus in female to create the rectouterine pouch. Fig. (1). (Skandalakis et al., 1983).

The upper two thirds of the rectum is related anteriorly to the rectovesical (or, rectouterine) pouch and to its contents (a coil of the ileum or pelvic colon). The lower third is related in male to the base of the bladder with the seminal vesicles and vasa deferentia intervening and to the prostate below, in female it is related to the vagina. Posteriorly, 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.

Laterally, above the peritoneal reflection, the rectum is related to loops of small gut, uterine appendages in female and to the sigmoid colon. Below the reflection it is separated from the side wall of the pelvis, the ureter and iliac vessels by the connective tissue and fascia of the lateral ligament. At still

lower level, the levator ani muscle becomes a close lateral relation, separated to some extent by the lower part of the lateral ligament.

The blood supply of the rectum is derived principally from the superior rectal artery which is a direct continuation of the trunk of the inferior mesenteric artery. The vessel crosses the bifurcation of the left common iliac vessels and descends in the base of the inferior limb of the pelvic mesocolon to the commencement of the rectum. The artery here divides into right and left branches. The superior rectal artery supplies the mucous membrane of the gut as far down as the mucocutaneous junction of the anal canal. The muscle wall of the rectum receives a reinforcement from the middle rectal branches which springs from the anterior divisions of the internal iliac arteries. Thirdly, some small twigs from the median sacral artery which arises from the back of the aorta about 1 cm above its bifurcation and it reaches the back of the rectum in the hollow of the sacrum. Fourthly, twigs from the inferior rectal arteries which come from the internal pudendal branches of the internal iliac vessels. Fig. (2).

A point on the superior rectal artery at which ligation of the vessel does not devascularize along rectosigmoid stump, this point was described by Sudeck 1907. This critical point of Sudeck is just above the origin of the last sigmoid artery. In about 50 % of individuals, the marginal artery continues downward to join the superior rectal artery, Sudeck's point would be just proximal to that junction. The significance of Sudeck's point depends on the surgical procedure to be performed. Sudeck's was interested in perineal excision of the rectum (Shandalakis et al., 1983).

The venous return of the rectum follows the arterial supply, with the distinctive difference that there is a very free anastomosis between the Tributaries of the venous system. A submucous plexus of veins in the rectum and anal canal drains through the muscle wall of the ampulla into a plexus that surrounds the ampulla, this is the external rectal plexus. This plexus communicates with the vesical plexus in male and venous plexus in the base of the broad ligament in female.