AVOIDING BOWEL AND URINARY STOMAS

ESSAY
Submitted for Partial Fullfillment of
Master Dagree in
GENERAL SURGERY

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(M. B. B. CH.)

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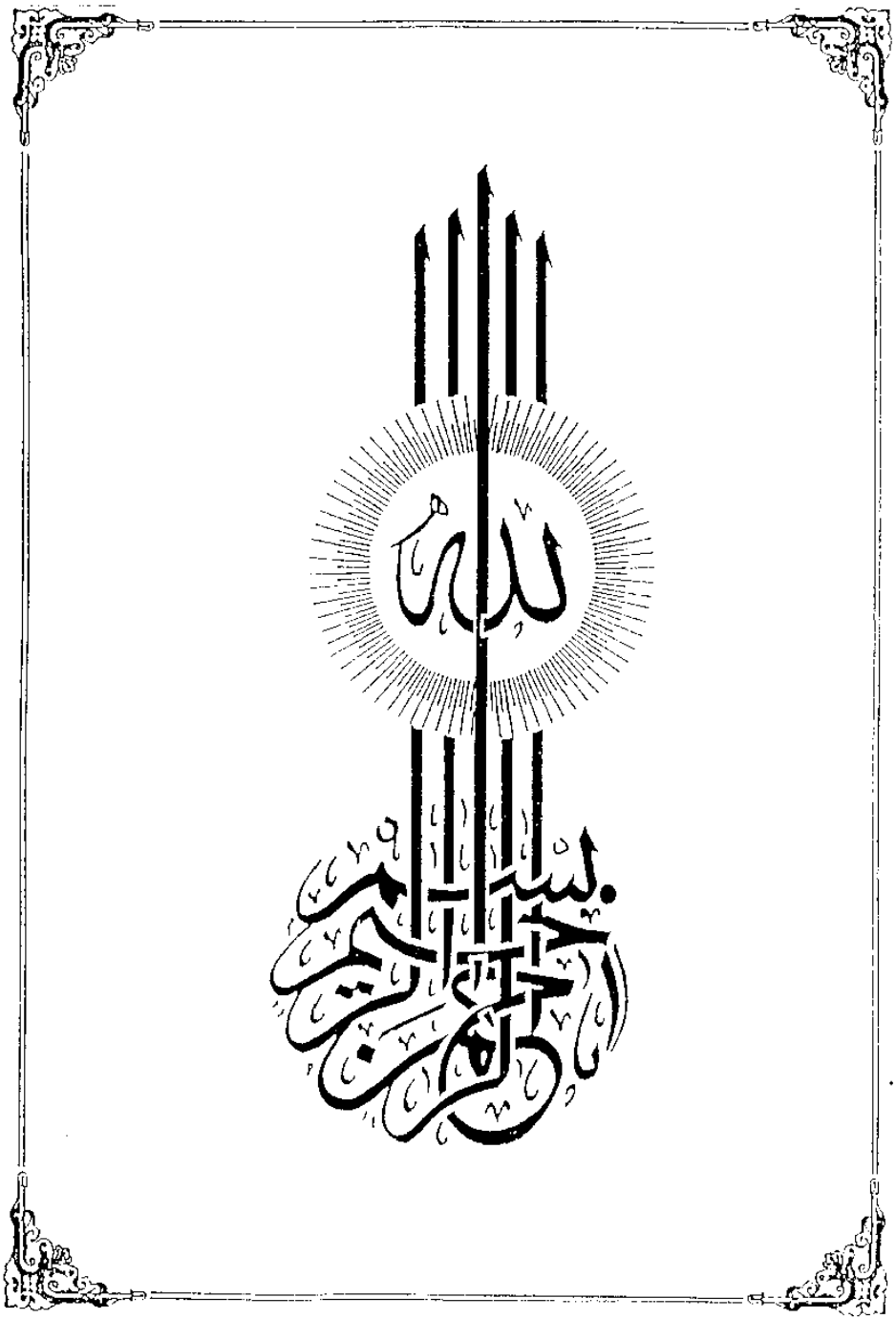
1997



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INTRODUCTION AND AIM OF THE WORK

INTRODUCTION

Stoma avoidance has been a major aim in gastro-intestinal surgery for many years, and notable acheivments in reducing the incidence of colostomy and ileostomy have been made.

Restoration of quality of life has been at the forefront of the surgeon's mind. A greater appreciation of anorectal physiology and the developments in anastamotic techniques have led to a fall in number of cases defunctioned after major restorative resections.

Despite these advances, the nature of the disease is fundamental constraint when choosing between stoma or no stoma in particular circumstances, where avoiding stoma takes second place after eradication of the disease.

There is usually no practical difficulties in re-establishing gastro intestinal continuity; the colon or the ileum, can be invariably mobilised to reach the perineum. Rather, it is the development of a new continence mechanism that has been the problem (Williams 1992).

Pelvic pouch surgery has to some became the hallmark that distinguishes " real " colorectal surgeons, where stapling devices removes much of the problem of the difficult pouchanal anastmosis (Phillips 1991).

On the other hand, continent stomel and selective orthotopic urinary reservoirs are no longer surgical curiosities. They are now serious options that are slowly replacing the incontinent conduit as the standered bladder substitute to free patients from an external appliance.

Successful continent diversion is based on the develepment of a reliable outlet mechanism and the const-ruction of a large capacity, compliant receptacle with a low endfilling pressure (Zinman 1993).

The aim of the work

The aim of this work is to study the varieties and alternatives for avoidance of bowel and urinary stomas with its advantages and complications aiming on improving patient's quality of life and reaching a good prognosis for their diseases.

ANATOMICAL REVIEW

The colon

General Anatomy

The colon , approximately 3 , to 5 feet in length, extends from the ileum to the rectum. The terminal ileum joins the rectum on its posteromedial border at the ileocecal valve . The fold of Treves (the only antimesenteric fatty appendage on the small bowel) is located on the distal ileum just proximal to the ileocecal valve. The cecum projects from the antimesenteric side of the ascending colon and is a large blind pouch with no mesentery. The cecum is approximately 7.5 to 8.5 cm in diameter and is the widest portion of the colon . The colon progressively diminishes in size to the sigmoid colon, its narrowest portion, which is approximately 2.5 cm in diameter. This size discrepancy accounts for the frequent observation that cecal tumors can grow to be large and bulky before the onset of symptoms, whereas sigmoid tumors are symptomatic at smaller sizes. The cecum, because of its relatively large diameter, is also the most common site of colonic rupture caused by distal obstruction. The layers of the colon wall include mucosa, submucosa, inner circular muscle, outer longitudinal muscle and serosa (Lee 1986). The longitudinal muscle is separated into three distinct bands called teniae coli positioned 120° apart about the circumference of the colon. The teniae converge proximally at the appendix and disappear as distinct bands at the level of the sacral promontory. Haustra coli are sacculations between the teniae and are separated by crescent-shaped folds called plicae semilunares. Appendices epiploicae are fatty appendages attached to teniae (Smith 1989).

The omentum is attached to the transverse colon on its anterior Superior edge. The ascending colon, descending colon, and posterior surface of the hepatic and splenic flexures are

usually retroperitoneal, whereas the cecum, transverse colon, and sigmoid colon are intraperitoneal in location. Although volvulus is most common in the sigmoid colon, the cecum and rarely, the transverse colon might also twist about their mesenteries because of their intraperitoneal location and relative lack of fixation (Lee 1986).

Arterial Supply

The superior mesenteric artery arises from the ventral surface of the aorta just below the celiac axis. It passes downward behind the pancreas and crosses in front of the third portion of the duodenum. It supplies the cecum, ascending colon and transverse colon via its ileocolic, right colic and middle colic branches, the inferior mesenteric artery arises from the infrarenal aorta and supplies the descending colon, sigmoid colon and upper rectum via its left colic, sigmoidal and superior rectal branches. Collateral's exist between the superior and inferior mesenteric arteries in the region of the splenic flexure. The arcades of the ileocolic, right, middle and left colic arteries are peripherally connected by a series of anastomosing vessels commonly referred to as the marginal artery of Drummond. The marginal artery of Drummond runs along the mesenteric border of the colon and provides the vasa recta to the colon. The arc of Riolan is located centrally. It is an inconstant vessel that exists between the left colic branch of the inferior mesenteric artery and the middle colic branch of the superior mesenteric artery (Sonneland 1958).

Venous Drainage

Except for the inferior mesenteric vein which lies adjacent to ascending branch of the left colic artery the veins draining the colon follow the same course as the corresponding