

Ileoanal Anastomosis after Proctocolectomy

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The first ileoanal anastomosis reported was performed in 1933 by Nissen. Proctocolectomy is the choice operation for patients with chronic ulcerative colitis and familial polyposis (Smith and Jackman, 1955; Binder et al., 1976). This procedure necessitates the construction of a permanent ileostomy after Brooke (Brooke, 1952) or ileal and Turnbull (Kock et al., 1977). Although recent advances and better techniques have given a vast improvement and convenience to the ileostomy patient, the natural pathway for defecation is still the patients desire. The voluntary control of the anal sphincter is achieved by the interplay of a number of physiological mechanisms. The anorectal angle, the stool consistency, the anal sphincter along with the sensory reflexes of the rectum, all maintain this control. The rectum acts as a reservoir and when distended, reflexes are produced by receptors in the wall, (Gaston, 1948; Goligher and Hughes, 1951) which cause the internal sphincter to relax. This permits the contents to pass in the anal canal (Duthie and Gairns, 1960) which in turn produces a further contraction of the external sphincter. The intra-rectal pressure is thus kept at a low level and anal continence is maintained (Phillips and Edwards, 1965; Schuster, 1968; Heppel et al., 1982). The replacement of the colon and rectum by the ileum segment which eventually undergoes transformation to a colonic type of mucosa, was a concept presented by Quenu in 1933. The mechanism for preservation of the anal continence was yet to be devised. Ravitch and Sabiston (1947) carried out experiments on animals by performing a rectal mucosectomy and endorectal ileal pull through procedures. The rectal mucosa was totally excised and the perirectal musculature of the pelvis and rectal wall were retained. The terminal ileum was anastomosed to the anal sphincters and the perianal margins. Good results were achieved and the technique was carried out on two patients with ulcerative colitis (Ravitch, 1948). Continence was obtained, which encouraged the application of the technique to seven other patients. Only two patients from this group had complications severe enough to revert to an abdominal ileostomy.

The technique was further modified by leaving the sensory areas of the rectal mucosa behind and thus giving improved results (Devine and Webb, 1951); Martin et al. (1977) operated on 17 young patients by stripping the rectal mucosa till 1cm proximal to the mucocutaneous junction (Martin et al., 1977). Ten patients developed complications as sepsis, stricture formation of the small gut and bleeding. Eight of them recovered and only two had to be converted to an abdominal ileostomy.

The procedure was again improved by Ferrari and Fonkarsrud in 1978. An S. Shaped ileal reservoir was constructed proximal to the pulled through segment with the distal 2cm of the rectal mucosa being left in place. Moderate success was achieved by this technique. Later Utsunomiya and co-workers (1980) reported that building a J Shaped ileal pelvic pouch gave better results. It was thus proposed that earlier continence was obtained in patients who had either an ileal reservoir constructed during the operation or balloon distension was performed post-operatively. Patients selected for ileoanal anastomosis should have a normally functioning anal sphincter, should not be obese and should belong to the younger age group (Heppell et al., 1982). An ileal reservoir should be designed, preferably as a J-loop, where the two limbs of the loop are sutured for a distance of 15 to 29cm and a side to side anastomosis performed. The apex of the pouch is then incised connected to the anal canal. In patients without a reservoir, active balloon dilatation of the distal portion of the ileum should be carried out about two weeks after surgery. Absolute haemostasis and asepsis should be stressed upon during the operation. An accurate en bloc resection and effective drainage are factors influencing the final results.

With the emergence of advanced techniques meticulous asepsis, and a clear concept of the physiological mechanisms of faecal continence, a few selected patients from those undergoing proc.

tocolectomy, have a good chance of maintaining the natural pathway of defecation without complications as nocturnal soiling, overflow incontinence or perineal excoriation.

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