A Modified Three-Loop Ileoanal Reservoir

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A modification of the Park's three-loop reservoir that allows spontaneous evacuation of the pouch by eliminating the efferent limb is described. [Key words: Ileoanal reservoir; Ulcerative colitis; Familial adenomatosis coli; Surgical technique]

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RESTORATIVE PROCTOCOLECTOMY with ileoanal anastomosis may be considered the major surgical advancement in the management of ulcerative colitis and familial polyposis during the past ten years. Several operative modifications have been reported since the original S-shaped, three-loop technique described by Parks and Nicholls.[1] These include the lateral ileal reservoir,[2] the J-shaped, two-loop reservoir,[3] and the W-shaped, four-loop reservoir.[4]

Reservoirs of a J and S shape have been the most popular in large series with long follow-up reports.[5,6] The J-reservoir is simpler to construct surgically, but its lower capacity may lead to a higher bowel frequency. The S-reservoir is larger and may require less frequent emptying; however, the efferent limb may result in outlet obstruction and require the use of a catheter.

This report describes a simple modification of the Parks S-reservoir that eliminates the efferent limb and allows spontaneous and complete evacuation of the reservoir.

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Technique

The reservoir is constructed by triplicating the terminal ileum and keeping the third limb 2 cm shorter than the others (Fig. 1). The first two limbs are 15 cm long. The distal end of the third limb is then closed with a double purse-string suture. A single layer 2-0 Dexon® suture is used for the reservoir construction.

After completing mucosectomy of a short anorectal stump, an incision is made on the distal extremity of the reservoir between the first and second limb and a lateral-terminal ileoanal anastomosis is carried out as in the J-reservoir. Anastomosis to the anal canal is performed with a single layer 2-0 Dexon suture to just above the dentate line. A covering loop ileostomy is performed at the end of the operation.

Shortening of the efferent limb has been suggested to allow spontaneous evacuation in S-shaped reservoirs.[7] The risk of troublesome angulation between the main axis of the reservoir and the efferent loop still exists with this method and represents a potential obstacle to complete evacuation. The stasis of fecal matter in the reservoir may favor the occurrence of pouchitis (Fig. 2). By constructing a lateral-terminal ileal anal anastomosis, easier

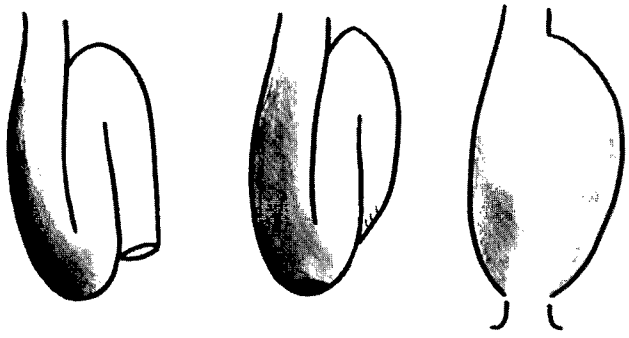

FIG. 1. Left: the triplicated terminal ileum, with the third loop 2 cm shorter than the others. Center: the third loop is closed and an incision is made at the bottom of the reservoir. Right: the lateral-terminal ileoanal anastomosis is completed.

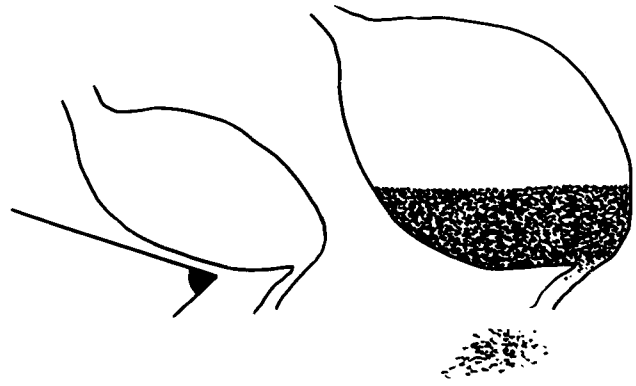

FIG. 2. The efferent limb may be responsible for obstruction of the reservoir, resulting in incomplete evacuation and fecal stasis.

emptying of the S-shaped reservoir is obtained. Moreover, the vascular supply to the proximal segments of the reservoir is likely to be better than to the distal end. This might reduce the risk of ileal anal suture breakdown.[4]

This modified S-shaped reservoir seems to combine the advantages of both S and J reservoirs, *e.g.*, low bowel frequency due to large capacity, and spontaneous evacuation due to the absence of an efferent limb.

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