



RESTORATIVE PROCTOCOLLECTOMY



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Master Degree in General Surgery

By

Dr. Amr Abdel Raouf Abdel Nasser

M.B., B.Ch.

Supervised By

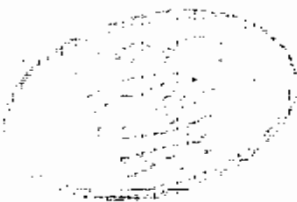
Prof. Dr. Mohamed Sameh Zaki

Prof. of General Surgery
Faculty of Medicine
Ain Shams University

Assist. Supervisor

Prof. Dr. Alaa El Din Abdalla

Assis. Prof. of General Surgery
Faculty of Medicine
Ain Shams University



Faculty of Medicine
Ain Shams University
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A.R.





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Introduction

It is fortunate today that several alternatives are available for reconstruction of the intestinal tract when proctocolectomy is required in the management of inflammatory diseases of the rectum such as chronic ulcerative colitis and granulomatous colitis or in the management of certain neoplastic diseases, particularly familial polyposis.

The Brooke ileostomy proves to be very satisfactory and is acceptable to the majority of patients but does require the continual wearing of an appliance. For patients with chronic ulcerative colitis or familial polyposis and a poorly functioning anal sphincter or one that is diseased, a continent ileostomy is the preferred procedure. However, in patients with a normally functioning anal sphincter, an ileoanal anastomosis with ileal reservoir, is the first alternative procedure to be considered because it eradicates the entire disease-bearing colorectal mucosa while preserving anal sphincter function, thus evacuation is through the normal route and requires no equipment. For patient with granulomatous colitis, it seems best to consider only the Brooke type of ileostomy because of the

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INTRODUCTION

risk of recurrent inflammatory disease involving the ileum

By providing an ileal reservoir, the high frequency of defecation and episodic incontinence associated with straight ileo anal anastomosis has largely been overcome

Various pouch designs have been advocated with good functional results dependent upon preservation of excellent continence and a reasonable stool frequency pattern

However even with ileal reservoir, there are many factors other than pouch design influencing the frequency of defecation including the learning curve, the method of mucosectomy, length of the rectal cuff and pelvic sepsis

Objective data are needed to recognize pouch designs that offer the best functional results. It is important to have a method for accurately measuring pouch volume and compliance characteristics of the pouch

Historical review

For certain pathologic conditions involving the colon and rectum, total proctocolectomy is required if the patient is to return to good health and be protected against more serious complication of the diseases.

Several decades ago, a stem-type ileostomy was established for removal of the colon and rectum. In this instance, the terminal ileum was brought through a stab wound in the abdominal wall.

One of the first attempts to resolve this problem was in 1942, when Drasgstedt suggested that an ileal stoma could be skin grafted (*Drasgstedt et al. 1941*). In this procedure, the exposed segment of ileum was protected and serositis did not develop. In this cases, if the skin graft took, a satisfactory spout was formed over which an appliance could be placed to collect the discharge from the stoma. In some respects, this was a satisfactory procedure but unfortunately, overtime spillage of ileal content over the skin grafted stoma and the skin graft "wore out". This resulted in shortening of the stoma and the development of stenosis and led to obstruction of the ileostomy, fistula formation and skin problems (*Bears, 1952*).

A real step forward was made in 1952, when Brooke suggested that an ileostomy could be immediately matured by complete eversion of the ileum backward upon itself, leaving a stoma of 3 to 5 cm in length (*Brooke 1952*).

Experimental work by Karlan et al, 1959 and later clinical results reported by Fonkalsrud, 1978, Parks et al 1980, Utsunomiya et al 1980, Taylor et al 1983, documented the improvement in functional results obtained by incorporating an ileal reservoir proximal to the ileoanal anastomosis. (*Metcalf et al, 1985*).

Abdominal colectomy with mucosal proctocolectomy and endorectal ileoanal anastomosis offers patients with ulcerative colitis or polypoid colitis the promise of preserving anorectal function while removing all the disease (*Metcalf et al 1985*).

While Devine (1943) and Corbett (1952) reported the procedure, Aylett after performing the operation in 1952 became the leading proponent. (*Hawley, 1985*).

Colectomy and ileorectal anastomosis is the simplest and in many ways still the best sphincter-saving procedure in selected cases of ulcerative colitis.

The next great step forward in the management of patients requiring proctocolectomy came 1969 when Koch suggested that a continent ileostomy could be established with a pouch just within the abdominal cavity just proximal to the ileal stoma (*Koch, 1969*). The continent ileostomy gave the patient control over evacuation of intestinal content and eliminated the need to wear an external appliance constantly (*Koch, 1969*).

These variations in designs have been introduced in an attempt to improve function particularly with regard to mode of evacuation and frequency of defecation (*Nicholls et al, 1985*).

Reservoir designs include Parks' original three loop model from which a projecting segment of distal terminal ileum is anastomosed to the anal canal (*Parks et al 1980*) the two loop reservoir of Utsunomiya (*Utsunomiya, 1980*) joined directly to the anal canal, a two loop reservoir formed by overlapping two segments of ileum (*Fonkalsrud, 1984*) and a four loop reservoir without a distal ileal segment (*Pezim & Nicholls, 1985*).

Indications for restorative proctocollectomy

Whereas familial polyposis, in most instances, is treated with total colectomy and ileoproctostomy or proctocolectomy soon after the

proctocolectomy. (Steinzer & Fonkalsrud, 1989).
 represent a major factor influencing the decision to perform a previous reports but has not been considered to be sufficiently high to incidence of carcinoma developing from ulcerative colitis has varied in developing carcinoma of the colon (Cook & Goligher, 1975). The ulcerative colitis and familial polyposis have an increased risk of It has been established that patients with long standing

managed. (Fonkalsrud, 1984)
 that even moderately severe attacks may be conservatively colitis will remain in good health with medical management and It is important to realize that many patients with ulcerative

(Grobler & Keighley, 1993).

- ♦ arthrits, uveitis, pyoderma gangrenosa,....
- ♦ Unremitting extra intestinal manifestations:-
- ♦ Perforation.
- ♦ Haemorrhage (Unremitting).
- ♦ Fulminating or toxic colitis.
- ♦ Stricture.
- ♦ Cancer.
- ♦ Dysplasia.
- ♦ Complications of steroids.
- ♦ Growth retardation, inability to function socially or at work.
- ♦ Intractability on optimal medical management.

Indications for surgery in ulcerative colitis

Gastroenterologists generally favour annual colonoscopy and selective mucosal biopsies in patients with chronic ulcerative colitis in order to recommend colectomy when moderate to high grade mucosal dysplasia is identified. Most protocols recommend annual colonoscopy and semiannual sigmoidoscopy with biopsies in all patients with

1989).

Mucosal dysplasia is regarded as a good indicator for development of subsequent carcinoma. **(Steizner & Fonkalsrud,**

(Kewenter et al, 1977).

The cumulative risk of developing carcinoma of the colon and rectum has been estimated to increase approximately 10 percent for every decade of duration of disease after ten years

colon or rectum. **(Lennard-Jones et al, 1977).**

There is a well documented direct association between the time of ulcerative colitis and the risk for development of carcinoma of the

with ulcerative colitis. **(Dickinson et al, 1980).**

Colonoscopy with mucosal biopsy has been used as a common screening technique to identify mucosal dysplasia, the precursor for carcinoma, before recommending proctocolectomy for many patients

Fonkalsrud, 1989).

for patients with long standing ulcerative colitis. **(Steizner & diagnosis is established, there is a tendency to delay proctocolectomy**

appearance when compared with de novo carcinomas of the colon.

Carcinomas arising from ulcerative colitis are different in

changes and reproducible grading.

pathologist is necessary to achieve a reliable diagnosis of dysplastic patients with ulcerative colitis may be difficult and complex. An expert during colonoscopy. Histologic evaluation of mucosal biopsies from therefore difficult and malignant growths may be undetected malignant progression. Selection of the appropriate site for biopsy is, and increased friability, mimic certain features of dysplasia and process, for example, pseudopolyps, mucosal ulcerations, stenosis Certain mucosal abnormalities associated with the inflammatory

term follow-up study until colectomy is performed.

disadvantage of repeated colonoscopic screening is the need for long to operation demonstrates a weakness of this screening technique. A carcinomas of the colon and rectum diagnosed by Colonoscopy prior patients with ulcerative colitis at risk. The low rate (less than 50%) of colonoscopy is an adequate method for accurate surveillance of There is an increasing concern regarding whether or not

(Greenstein et al, 1979).

carcinomas developing a decade later than those with pancolitis Patients with left-sided colitis has been found to have

Jones et al, 1986).

total or extensive disease of eight years duration or more (*Lennard-*