Comparing Functional Results One Year and Ten Years After Ileal Pouch-Anal Anastomosis for Chronic Ulcerative Colitis

P. Bernard McIntyre, M.D., John H. Pemberton, M.D., Bruce G. Wolff, M.D., Robert W. Beart, M.D., Roger R. Dozois, M.D.

From the Division of Colon and Rectal Surgery, Mayo Clinic and Mayo Foundation, Rochester, Minnesota

Proctocolectomy with ileal pouch-anal anastomosis (IPAA) is the treatment of choice for most patients with chronic ulcerative colitis. Long-term results, however, remain undefined; the major concern is that function may deteriorate. PURPOSE: The aim of this study was to assess functional outcome in a subgroup of patients who have an IPAA for chronic ulcerative colitis for >10 years.

METHODS: Among 1400 IPAA patients, 75 consecutive subjects (31 females and 44 males; median age 31 at operation) were identified who had the procedure prior to 1982. All patients had functional results recorded 1 year and 10 years following ileostomy closure. RESULTS: There were four deaths during the follow-up period; none were pouch related. Two patients refused ileostomy closure. Of the remaining 69 patients, there were 8 (11 percent) failures, leaving 61 subjects available for study. Stool frequency (7 ± 3, mean ± SD) remained unchanged. Of the 50 subjects with initially excellent daytime continence, 39 (78 percent) remained the same, 10 (20 percent) developed minor incontinence, and 1 developed poor control after 10 years. Four of 10 subjects (40 percent) with initial minor daytime incontinence remained unchanged, 4 (40 percent) improved, and 2 (20 percent) worsened. The one subject with poor control at one year was unchanged. Nocturnal fecal spotting increased over the 10-year period but not significantly (38 percent vs. 52 percent; P = 0.08). CONCLUSIONS: After IPAA, functional results in terms of stool frequency and rate of fecal incontinence did not deteriorate with time. [Key words: Ileal pouch-anal anastomosis; Ulcerative colitis]

Over the past decade, the ileal pouch-anal anastomosis (IPAA) has emerged as the procedure of choice in most patients with chronic ulcerative colitis requiring surgical management of their disease. The popularity of this procedure has grown, mainly because it avoids the need for a permanent stoma and presumably rids the patient of disease and subsequent cancer risk.

Since the report by Martin et al. in 1977, there have been many publications describing several variations of pouch design, with or without mucosectomy; all report acceptable functional results.
during the first few years after operation. Because the IPAA is a relatively new procedure, there is little data on long-term functional results.

Therefore, the aim of this study was to identify a group of patients with a diagnosis of chronic ulcerative colitis who had undergone an IPAA a minimum of 10 years previously and to evaluate the functional results, particularly with regard to whether they had improved, deteriorated, or remained the same.

PATIENTS AND METHODS

Since January 1981, over 1,400 ileal IPAA operations have been performed at the Mayo Clinic. A registry of all patients undergoing this operation has been kept by a data clerk, with follow-up initiated at six months after ileostomy closure and yearly thereafter. At no time does a surgeon enter data or conduct the follow-up surveys.

From this registry, 75 consecutive patients who had undergone this procedure for chronic ulcerative colitis, between January 1981 and May 1982, were identified. Ages, at time of surgery, ranged from 16 to 51 years, with a median age of 31 years. There were 31 females and 44 males.

The standard operation was a two-stage procedure using the two-limbed “J”-shaped ileal pouch, similar to the pouch described by Utsunomiya et al. In the first stage, abdominal colectomy, proximal proctectomy, endorectal mucosectomy, and ileal pouch anastomosis with defunctioning loop ileostomy was completed. Eight to twelve weeks later, the ileostomy was closed at a second operation. Only two patients did not have a covering stoma.

Each patient had a data file containing information obtained at both 1 year and 10 years following ileostomy closure. Follow-up data included stool frequency, daytime and nighttime incontinence scores, and episodes of pouchitis. In addition, all complications were recorded.

Daytime incontinence was classified as never, occasional, and frequent. Patients with excellent daytime control who did not stain their underclothes were classified as never having fecal incontinence. Those with no gross incontinence, but who had occasional minor soiling and no interruption of daily activity were classified as occasional fecal incontinence, while patients with gross incontinence or soiling that interrupted daily activity were classified as having frequent incontinence.

Nighttime incontinence was classified similarly, but because of the difficulty in grading severity during sleeping hours, incontinence at night was classified as either being present or absent, with any staining or soiling of underclothes regarded as incontinence.

Pouchitis was identified as a syndrome manifest by frequent watery, often bloody stools, urgency, incontinence, abdominal cramping, and malaise or fever. An episode of pouchitis was considered to have occurred if two or more of these symptoms were present for at least two days and relieved by the administration of an antibiotic.

Failure of the IPAA was defined as the need for a permanent ileostomy, with or without excision of the pouch.

Functional outcome at the 1-year follow-up was compared with outcome recorded at 10 years. Nonparametric analysis of the data was done using the sign and Wilcoxon's signed rank tests.

RESULTS

No patient was lost to follow-up. Of the 75 subjects identified, 4 had died during the follow-up period. None of these deaths were pouch related. One patient died of liver failure present as a result of hepatitis acquired before the pouch surgery. Another died of multiple myeloma and one patient died as a result of a cholangiocarcinoma. The last death was the result of a pancreatic malignancy.

Two patients chose not to have their defunctioning ileostomies closed. Of the remaining 69 subjects available for study, there were 8 failures (11 percent). Five of these occurred within the first year following surgery and 3 occurred later at 4, 7, and 9 years. As can be seen in Table 1, a perioperative complication was the most common reason for early failure; recurrence of undiagnosed Crohn's disease was the most common etiology of late failure.

Early complications were frequent. Seventeen (23 percent) of the initial 75 subjects developed at least one episode of small bowel obstruction and 6 (8 percent) had evidence of pelvic sepsis following pouch construction. Late complications, excluding pouchitis, were unusual. Two patients had perianal abscesses, one occurring at 5 years, the other at 10 years; both were drained with no sequelae. Neither patient has yet to be diagnosed with Crohn's disease. One subject developed a perforation of the pouch four years postoperatively.