

The J-pouch for Patients with Crohn's Disease and Indeterminate Colitis: (When) Is it an Option?

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When surgery for Crohn's disease (CD) is indicated, limited segmental resections to preserve bowel length and avoidance of unnecessary or prophylactic resections are the classic mainstays of therapy; total (procto-)colectomy followed by restorative techniques such as ileal pouch-anal anastomosis (IPAA), the procedure of choice after failed medical therapy in ulcerative colitis (UC), is generally believed to have no role in the surgical management of CD. However, patients with severe colonic CD with an absence of small bowel involvement or perianal disease are, by nature and extent of their disease, potential candidates for restorative proctocolectomy; the indications and outcomes of this rather rare indication for pouch surgery is the focus of this review. For CD of the colon with relative sparing of the rectum, total abdominal colectomy and straight ileorectal anastomosis (SIRA) is an option and has been shown to lead to acceptable quality of life (QOL) and good functional outcomes.¹ If severe CD involves the rectum as well, total proctocolectomy may become mandatory, which has previously required a permanent ileostomy. For this subset of patients, a number of authors have suggested performing an IPAA in carefully selected patients.

In some of these patients, the distal rectum may be spared despite extensive involvement of the colon and upper rectum, leaving patients with a short but disease-free rectal stump. Here, SIRA is not advocated as it may lead to poor outcomes with impaired continence and intolerably high defecation rates. An ileal pouch-rectal anastomosis (IPRA) procedure, where an additional reservoir is created on top of the short rectal remnant, has been shown to be a valid option to avoid permanent ileostomy in affected patients.¹ A recent study from our institution compared an age- and gender-matched cohort of patients undergoing SIRA or IPRA and was able to show the clinical benefits of IPRA: despite a longer follow-up period in the IPRA arm (8 vs. 5 ½ years) and significantly lower anastomoses (9 vs. 23 cm), patients undergoing IPRA were comparable to SIRA patients with respect to number of bowel movements, accident frequency and content, and QOL scores. Despite having a higher rate of nighttime seepage and nighttime pad use, those undergoing IPRA had equally high QOL scores and would undergo the same surgery again in 100 % of all 18 cases. Even though their disease recurred in the majority of patients, gastrointestinal continuity was maintained in 91 % after 8 years follow-up, resulting in satisfaction rates as high as those observed in patients undergoing SIRA. Therefore, when Crohn's proctocolitis necessitates total colectomy and the length of the rectal stump precludes straight IRA, ileal pouch-rectal anastomosis may be considered a viable alternative to permanent diversion.

Even if total proctocolectomy without preservation of a residual rectal stump is necessary, IPAA can be performed in CD patients if no small bowel- or anoperineal disease is present. A study by Melton et al. in 2008 on 204 CD patients who had undergone IPAA could demonstrate a pouch retention rate of 71 % after 10 years of follow-up. In this study, patients were grouped according to whether CD was diagnosed before IPAA ("intentional", 10 %), on histopathologic analysis immediately postoperative ("incidental", 47 %), or at

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a later time point (“delayed”, 43 %).² On multivariate analysis, pouch loss was associated with a delayed diagnosis of CD (hazard ratio (HR) 2.6, 95 % confidence interval (CI) 1.1–6.5), the occurrence of pouch-vaginal fistula (HR 2.8 [95 % CI 1.3–6.4]) or postoperative pelvic sepsis (HR 9.7 [95 % CI 3.4–27.3]). Those patients who were able to retain IPAA had near-perfect or perfect continence (72 %) and rare or no urgency (68 %) with a median of seven bowel movements per day (range 2–20). Overall QOL scores were favorable. Patients with a delayed diagnosis of CD fared worse, but half of them retained their pouch at 10 years and reported good functional outcomes.

Similar concerns pertain to patients with a preoperative diagnosis of indeterminate colitis who undergo evaluation for IPAA. Authors from the Mayo Clinic have reported that patients with indeterminate colitis suffered from significantly more episodes of pelvic sepsis (17 compared to 7 % in UC), pouch fistula (31 vs. 9 %), and pouch failure (27 vs. 11 %).³ However, when patients with a delayed diagnosis of CD were analyzed separately, the rate of complications among the remaining patients with indeterminate colitis was identical to that of patients with chronic UC, and functional outcomes were comparable among all three groups.

In our experience of 115 patients with indeterminate colitis undergoing IPAA as reported by Delany et al.,⁴ we found equivalent functional outcome, QOL, and pouch survival rates in patients with indeterminate colitis and those with UC. Although patients with indeterminate colitis were more likely to develop minor perineal fistulae, pelvic abscesses, and

progression to Crohn’s disease, the rate of pouch failure was 3.4 % at 3 years follow-up, which was identical to that of UC patients. Based on these findings, it is our policy to perform IPAA in patients with indeterminate colitis whenever clinical manifestations of CD are absent before and at the time of surgery. As the above studies have demonstrated, such patients can have excellent long-term outcomes without an increased risk of pouch failure and should therefore not be held off from IPAA. However, patients with indeterminate colitis may benefit from careful evaluation in specialized institutions with a high volume of IPAA patients, competent in the management of the potentially serious problems that may occur after IPAA.

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