Surgical Outcomes and Satisfaction in Patients after IPAA:
Can a failed ileal pouch be salvaged?

Michael Hwang BA1, Arthur F. Stucchi PhD1, Lauren A. Howard MPH1, Jennifer A. Coukos BS2, Francis A. Farraye MD2 and James M. Becker MD1
1. Department of Surgery, Boston Medical Center, Boston, MA; 2. Section of Gastroenterology, Boston Medical Center, Boston, MA

Background

The IPAA Procedure
Ileal pouch-anal anastomosis (IPAA) is a surgical procedure in which a new rectum, termed the “pouch,” is created out of the final segment of the small intestine (fig. 1A) and subsequently attached to the anus (fig. 1B). This allows patients who have undergone proctocolectomy to retain control of bowel movements and improve their quality of life. Restorative proctocolectomy with IPAA is indicated in patients with refractory ulcerative colitis (UC) and patients with certain forms of hereditary colon cancer.

Pouch Salvage
Although the majority of IPAA surgeries are successful, complications occur in 30% to 50% of patients.\(^2,3\) In most cases, complications can be successfully treated with medical therapy or additional surgery. However, 5% to 12% of patients require removal of the pouch and creation of a permanent Brooke ileostomy.\(^4\) Surgical attempts to repair the pouch or anastomosis are known as “pouch salvage” procedures, which are classified by surgical approach as we have previously described[1]: Table 1.

Table 1: Surgical approaches for pouch salvage procedure

<table>
<thead>
<tr>
<th>Surgical Approach</th>
<th>Indications requiring surgery</th>
</tr>
</thead>
</table>
| Total Reconstruction | • Resection of existing pouch; creation of new pouch from terminal ileum and anal anastomosis  
• Crohn’s disease of the pouch  
• Loss of pouch-related adhesion  
• Drainage of peri-pouch abscess  
• Fistula resection  
• Crohn’s disease of the pouch  
• Diverting ileostomy in combination with pouch revision |
| Partial Transabdominal | • Fistulotomy  
• Seton placement  
• Repair of anal canal fissure  
• Strictureplasty  
• Crohn’s disease of the pouch  
• Mucosal flap advancement  
• Drainage of pouch-related abscess |
| Partial Transperineal | • Fistulotomy  
• Seton placement  
• Repair of anal canal fissure  
• Strictureplasty  
• Crohn’s disease of the pouch  
• Mucosal flap advancement  
• Drainage of pouch-related abscess |

Objective

• Ascertain the overall success rate of pouch salvage.
• Determine differences in demographics, surgical indication and outcomes.
• Evaluate patient satisfaction after pouch salvage.

Methods

An IRB-approved retrospective chart review from the IPAA Registry was performed of patients who had a pouch salvage procedure performed by Dr. Becker between 1989 and 2009. Variables collected included demographics, indication for surgery, surgical approach, pouch status after surgery and patient satisfaction.

Results

Fifty-five patients were included in the study. Demographic and clinical characteristics are shown in Table 2. A majority of pouch salvage procedures, performed by all three surgical approaches, were successful. After a mean follow-up of 55 months (range: 3 to 209), 14 patients experienced continued pouch failure and required a permanent ileostomy. Outcome results are shown in figure 2.

Table 2: Patient characteristics by surgical approach

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Overall (n=30)</th>
<th>Total Reconstruction (n=15)</th>
<th>Partial Transabdominal (n=11)</th>
<th>Partial Transperineal (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UC</td>
<td>49 (16)</td>
<td>14 (13)</td>
<td>19 (17)</td>
<td>17 (12)</td>
</tr>
<tr>
<td>Familial Polyposis</td>
<td>2 (7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2 (14%)</td>
</tr>
<tr>
<td>Crohn’s disease</td>
<td>2 (7%)</td>
<td>1 (7%)</td>
<td>1 (9%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Other</td>
<td>2 (7%)</td>
<td>2 (7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
</tbody>
</table>

Methods

Surgical outcomes and satisfaction in patients after IPAA:

Table 2: Patient characteristics by surgical approach

<table>
<thead>
<tr>
<th>Surgical Indication</th>
<th>Overall (n=30)</th>
<th>Total Reconstruction (n=15)</th>
<th>Partial Transabdominal (n=11)</th>
<th>Partial Transperineal (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional pouch problems</td>
<td>11 (37%)</td>
<td>5 (33%)</td>
<td>6 (55%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Retained rectal mucosa</td>
<td>6 (20%)</td>
<td>6 (40%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Mucosal prolapse</td>
<td>7 (23%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>7 (50%)</td>
</tr>
<tr>
<td>Anal stenosis</td>
<td>1 (3%)</td>
<td>1 (7%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Intra-abdominal processes</td>
<td>16 (55%)</td>
<td>16 (105%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Perianal processes</td>
<td>14 (47%)</td>
<td>2 (13%)</td>
<td>0 (0%)</td>
<td>12 (86%)</td>
</tr>
</tbody>
</table>

*Intra-abdominal processes include abscess, pelvic sepsis, anastomotic leak and fistula
# Perianal processes include abscess, fissure, fistula and anastomotic sinus

Discussion

The success rate of the salvage procedure was not reliant on the type of procedure that was performed. However, the surgeon’s experience is thought to play a significant role in the success rate. All salvage procedures were performed by Dr. Becker who has been performing this procedure for the last 30 years.

On average, patients were satisfied with the procedure regardless of the outcome. Only 1 patient was unsatisfied 3 months post-op. This was a rare case, in which the patient had a sphincteroplasty due to a anterior tear of the anal sphincter. The patient was unable to achieve continence and this was most likely the reason for the reported unsatisfied.

Conclusion

Pouch salvage surgery was successful in 75% of patients. After surgery patient satisfaction was very high suggesting that the salvage procedure by any surgical approach is a viable option for patients with a failed IPAA.

References