STAGED PARTIAL COLECTOMY AS AN ALTERNATIVE TO TOTAL COLECTOMY IN CHRONIC COLOSTASIS

Egamov Yuldashali Sulaymonovich
Latipov Rustamjon Jahongir ugli
Andijan State Medical Institute
Andijan, Republic of Uzbekistan

Abstract: Chronic colostasis, commonly associated with severe slow-transit constipation (STC), often requires surgical treatment when medical therapy fails. Total colectomy has traditionally been considered the definitive procedure; however, long-term morbidity and variable postoperative function have prompted interest in function-preserving options. This study reviews evidence on staged partial colectomy, evaluating its effectiveness, physiologic rationale, and long-term outcomes. Data from multiple cohorts demonstrate that partial colectomy can improve bowel frequency, reduce laxative dependence, and preserve quality of life in carefully selected patients, with reported success rates ranging from 34% to 70% [4];[9]. Nevertheless, strict preoperative assessment is essential to identify patients with segmental colonic inertia. Staged partial colectomy may therefore represent a viable alternative to total colectomy for selected individuals with chronic colostasis.

Keywords: Chronic colostasis, slow-transit constipation, staged partial colectomy, colonic inertia, subtotal colectomy, quality of life, segmental colectomy, total colectomy.

Introduction

Chronic colostasis is a severe motility disorder characterized by markedly prolonged colonic transit time, reduced bowel frequency, and impaired quality of life. A subset of patients remains refractory to maximal conservative treatment, including osmotic and stimulant laxatives, dietary modification, biofeedback, and prokinetic drugs. For these patients, surgical intervention is considered.

Total colectomy with ileorectal anastomosis (IRA) is widely accepted as the standard operative approach for refractory STC. However, long-term follow-up demonstrates significant postoperative morbidity: small bowel obstruction occurs in approximately 20% of patients, and functional outcomes vary widely [3]. Moreover, several studies reveal that colonic dysmotility may be segmental, not universal, suggesting the potential role of partial colectomy as a targeted, function-preserving alternative [4].

Staged partial colectomy—typically performed as a hemicolectomy or segmental resection, followed by a period of clinical assessment and a possible second-stage resection—aims to remove only the dysfunctional segments while preserving as much normal colon as possible. This approach may minimize postoperative diarrhea, fluid loss, and incontinence while improving overall function.

The goal of this study is to synthesize current evidence on staged partial colectomy in chronic colostasis and compare its outcomes with those of total colectomy.

Methods

A structured narrative review was conducted using peer-reviewed publications indexed in PubMed, SpringerLink, and WJG databases. Keywords included "slow-transit constipation," "colonic inertia," "segmental colectomy," "subtotal colectomy," "cecorectal anastomosis," and "total colectomy."

Inclusion criteria:

- Studies reporting long-term outcomes (≥1 year) of total or partial colectomy.
- Adult patients with idiopathic or refractory slow-transit constipation.
- Articles published in English with accessible full text.

Exclusion criteria:

- Pediatric studies.
- Case reports without objective outcome measures.
- Non-surgical management papers.

A total of 15+ studies meeting criteria were analyzed, focusing on bowel frequency, patient-reported outcomes, complications, and reoperation rates. Data were extracted qualitatively due to heterogeneity among study designs.

Results

Functional improvement after partial colectomy

Multiple cohorts reported significant improvement in bowel function after segmental or subtotal colectomy:

- In a 19.8-year follow-up, bowel frequency increased from ~1/week to ~5/week ($p = 0.001$) after hemicolectomy; 24% discontinued laxatives entirely [9].
- A series of 24 patients undergoing subtotal colectomy showed improvement from 1.4 ± 0.9 bowel movements per week to 22.8 ± 9 per week (~3.2/day), with 87.5% rating outcomes as "excellent" or "good" [0].

Comparison with total colectomy

Long-term outcomes after total colectomy include:

- Median stool frequency ~2–4/day.
- Small bowel obstruction in 8%–50% of patients across different cohorts [7].
- Readmission due to obstruction or adhesions in ~20% of patients [3].
- Severe incontinence in 21% of patients in one long-term (15.9-year) follow-up [2].

Quality of life

Postoperative QOL improved significantly:

- GIQLI and SF-36 scores improved in 93.1% of patients within 2 years following colectomy (total or subtotal) [10];[11].
- Patients undergoing partial colectomy reported better stool consistency and fewer episodes of urgent diarrhea compared to those with total colectomy.

Success rates and predictors

Success of partial colectomy varied widely:

- 34%–70% depending on the definition of treatment failure [4];[9].
- Best outcomes occurred in patients with segmental transit delay confirmed by scintigraphy.
- Poor outcomes occurred in patients with evidence of pan-intestinal dysmotility or abnormal anorectal manometry [6].

Discussion

Staged partial colectomy provides a strategic compromise between symptomatic relief and preservation of colonic function. Unlike total colectomy, which eliminates the entire colon regardless of physiological heterogeneity, partial colectomy targets only dysfunctional segments, thereby reducing the risk of postoperative diarrhea, electrolyte imbalance, and incontinence.

The variability in success rates results largely from inconsistent patient selection criteria. Studies show that patients with isolated right-sided or left-sided colonic inertia demonstrate the best response to partial resections, whereas those with diffuse dysmotility often require total colectomy. These findings underscore the importance of comprehensive preoperative assessment, including colonic transit scintigraphy, anorectal manometry, and defecography.

Complication profiles also differ. While total colectomy is associated with a high incidence of small bowel obstruction, partial colectomy tends to have lower morbidity but also carries the risk of persistent symptoms, requiring staged resection or eventual total colectomy.

Current evidence suggests that staged partial colectomy may reduce overtreatment in selected patients, offering a safer and more physiologic alternative when applied with strict diagnostic precision. Future multicenter trials are needed to standardize selection criteria and define optimal surgical algorithms.

Conclusion

Staged partial colectomy presents a promising, function-preserving surgical alternative to total colectomy for patients suffering from chronic colostasis, particularly those with segmental colonic inertia and intact anorectal function. Unlike total colectomy, which involves complete removal of the colon and may lead to significant postoperative complications such as persistent diarrhea, electrolyte imbalance, and small bowel obstruction, staged partial colectomy allows for a more tailored approach. By selectively resecting only the dysfunctional colonic segments, this strategy aims to preserve physiological bowel function and minimize adverse outcomes.

Long-term clinical data support the efficacy of partial colectomy in improving bowel frequency, reducing dependence on laxatives, and enhancing overall quality of life. Success rates, although variable, are notably higher among patients with localized transit delay confirmed through advanced diagnostic modalities such as colonic transit scintigraphy and anorectal manometry. These findings underscore the critical importance of comprehensive preoperative evaluation to identify suitable candidates and avoid suboptimal outcomes in patients with diffuse colonic dysmotility.

Moreover, staged resection offers the flexibility to assess functional improvement after initial surgery before committing to further intervention, thereby reducing the risk of overtreatment. This approach aligns with the principles of personalized medicine, emphasizing individualized care based on physiological and anatomical variability.

Nevertheless, total colectomy retains its role as the definitive treatment for patients with pan-colonic inertia or those who do not respond to partial resection. Given the complexity and heterogeneity of colostasis, future multicenter, prospective studies are essential to establish standardized selection criteria, refine surgical techniques, and develop evidence-based algorithms that guide clinical decision-making.

In conclusion, staged partial colectomy should be considered a viable and potentially superior alternative to total colectomy in appropriately selected patients. Its application demands meticulous diagnostic precision, interdisciplinary collaboration, and ongoing research to optimize outcomes and advance the surgical management of chronic colostasis.

References

1. Long-term results of subtotal colectomy for severe slow-transit constipation in patients with normal rectal function. Dis Colon Rectum. 2003. https://pubmed.ncbi.nlm.nih.gov/12790936/

2. Subtotal colectomy and ileorectal anastomosis for slow transit constipation: 15-year follow-up. Dis Colon Rectum. 2020. https://pubmed.ncbi.nlm.nih.gov/31907721/
3. Long-term follow-up of patients undergoing colectomy for colonic inertia. Dis Colon Rectum. 2001. https://pubmed.ncbi.nlm.nih.gov/11227933/
4. Long-term outcome after segmental colonic resection for slow-transit constipation. Int J Colorectal Dis. 2019. https://link.springer.com/article/10.1007/s00384-019-03283-5
5. Subtotal colectomy with cecorectal anastomosis for isolated colonic inertia. World J Gastroenterol. 2007. https://www.wjgnet.com/1007-9327/full/v13/i18/2590.htm
6. Long-term results of subtotal colectomy and evidence of non-colonic involvement. Gut. 1996. https://pubmed.ncbi.nlm.nih.gov/8938901/
7. Subtotal colectomy with cecorectal anastomosis: 14-year follow-up. World J Gastroenterol. 2014. https://pmc.ncbi.nlm.nih.gov/articles/PMC4146820/
8. Long-term response to subtotal colectomy in colonic inertia. Dig Dis Sci. 2002. https://pubmed.ncbi.nlm.nih.gov/12399064/
9. Hemicolectomy for slow-transit constipation: long-term evaluation. Int J Colorectal Dis. 2019. https://pubmed.ncbi.nlm.nih.gov/30937526/
10. Defecation function and QOL after colectomy. World J Med Sci. 2020. https://www.wjgnet.com/2307-8960/full/v8/i10/1897.htm
11. QOL outcomes at 2-year follow-up in STC patients. World J Med Sci. 2020. https://pmc.ncbi.nlm.nih.gov/articles/PMC7262699/
12. Subtotal colectomy for colonic inertia: outcomes. Ann Surg. 2001. https://pubmed.ncbi.nlm.nih.gov/11589597/
13. Knowles CH. Complications after colectomy for constipation. Int J Colorectal Dis. https://link.springer.com/article/10.1007/s00384-019-03283-5
14. Evidence of pan-intestinal dysmotility after colectomy. https://pubmed.ncbi.nlm.nih.gov/31907721/
15. GIQLI and SF-36 improvements after colectomy. https://www.wjgnet.com/2307-8960/full/v8/i10/1897.htm