



Same-day colectomy: are we throwing caution to the wind?

S. B. Atallah^{1,2,3} · S. W. Larach¹

Published online: 19 September 2023
© Springer Nature Switzerland AG 2023

We have come a long way in the postoperative management of colorectal surgery patients. One could argue that Enhanced Recover After Surgery (ERAS) has been one of the most important innovations in care, directly translating into quicker discharges, reduced costs, and satisfied patients [1]. ERAS was always designed to be patient-centric, with the main objective being expedited but safe hospital discharge. While there are many facets to ERAS, for colorectal surgery, much of the focus has been on minimally invasive surgery, which reduces pain medication requirements, together with pain management strategies that minimize narcotics and thus accelerate return of gut function. Typically, when a patient is able to transfer independently to and from their hospital bed, is able to ambulate independently, has return of bowel function, and has normal clinical parameters, they can be discharged home. Expected length of stay after colectomy is 3–5 days.

Recently, some surgeons have proposed a new approach of sending patients home the same day after colectomy, first described in 2015 by Gignoux et al. (France) [2]. Thus, rather than trying to reduce length of stay with ERAS protocols, the hospital stay is altogether eliminated. Data for this provocative approach are limited, although Curfman et al. have reported results on ambulatory colectomy [3]. This was a single-center retrospective review of 69 patients who had undergone robotic colectomy—a balanced mix of low anterior resections and right hemicolectomies with primary anastomosis.

They reported quite exemplary results, with only one patient (1.4%) readmitted. Same-day colectomies accounted

for 22% of the investigator's volume. The authors also reported on postoperative patients who re-presented to the emergency department (ED). Reasons for re-presentation included nontrivial complaints, such as abdominal pain, rectal bleeding, and urinary retention. In all, 6/69 or 8.7% of patients sought medical care in an ED after being discharged on the day of surgery. Nevertheless, the authors noted a 0% leak rate as well as a 0% ileus rate. The authors concluded that, for carefully selected patients and with appropriate education, same-day colectomy is a “viable option.”

Even if we ignore the 8.7% of patients burdened by an ED visit, one has to wonder just how generalizable these results are in a real-world setting; that is, how reproducible these findings would be on a larger scale.

We already know the answers to these questions. In a series from Johns Hopkins, 30-day readmission rates measured 11.4% (1239/10,882) [4], which is approximately 10 times the rate reported by Curfman, and more realistically represents what one would expect to see in clinical practice. Because these represent data from patients who were discharged after a conventional hospital stay postoperatively, the expected number of readmissions of patients undergoing same-day colectomy (on a large scale) should be > 11.4%, not 1/10th that amount.

We also know from published meta-analysis data that the incidence of ileus after colorectal surgery is typically on the order of 10% [5]. Despite sophisticated risk stratification methods to predict who will and will not have an ileus and/or anastomotic leak, it is probably not accurate enough to determine patient eligibility for same-day discharge. This suggests that the idea of same-day colectomy is not generalizable.

There is well-established data to document leak rates after colorectal surgery, which does range from 2.4% to 8% [6], and in some series higher. Nearly every sizable series that examines leak rates after colorectal surgery reports at least some patients who leaked. It stands to reason that, if patients are sent home the day of their surgery, a subset of them will be at risk of leaking at home [7], rather than in a center where high-acuity resources (e.g., operative services,

✉ S. B. Atallah
atallah@post.harvard.edu

S. W. Larach
swlarach@aol.com

¹ HCA Healthcare Oviedo, Oviedo, FL, USA

² Adventhealth Orlando, Orlando, FL, USA

³ College of Medicine, University of Central Florida, Orlando, FL, USA

intensive care, fluid resuscitation, intravenous antibiotics) are immediately available.

Let us think about some of the advantages that a hospital environment provides in the postsurgical setting. First and foremost, hospitals provide an environment of careful monitoring, with expertise on hand to treat emergent (albeit rare) postoperative complications—including but not limited to arrhythmia, cerebrovascular accident, myocardial infarction, postoperative hemorrhage requiring return to surgery, and/or emergent endoscopic intervention. For patients who have ongoing comorbid conditions such as obesity, immobility, and/or chronic pulmonary disease, there is supportive care provided by respiratory therapists, physical therapists, and ancillary staff. Metabolic derangements (e.g., hypokalemia, hyperglycemia) not infrequently observed after colorectal resection can be swiftly managed.

Proponents of same-day colectomy would argue that patients with comorbid conditions such as the aforementioned would be selected out of the algorithm. However, one cannot always anticipate emergent postoperative events and medical decompensation, and it is inarguably safer for patients to be kept in-house during the critical few days after major surgery. Another important argument in support of ambulatory colectomy is the idea that, under special circumstances such as the COVID-19 pandemic of 2020, hospital resources have to be conserved for higher-acuity patients and that the hospital environment poses risk of infection [8]. While valid, it is hard to rationalize this approach in a postpandemic world.

There are other important advantages of the hospital that make admission after colectomy logical. Surgeons and nurses have the opportunity to monitor their patients via face-to-face encounters and examination. They can witness the progress of their patients first-hand to track improvement or potential decline. From the patient's perspective, they are nurtured along their recovery pathway. Specifically, they are able to directly ask questions of their care team, allowing a sense of comfort and reassurance during an otherwise stressful time. In hospitals, blood work (including C-reactive protein monitoring) and clinical parameters can alert physicians *early* to the possibility of serious and potentially life-threatening conditions, allowing for quick intervention [9].

These clear advantages beg the question: Who exactly benefits from same-day colectomy? Who are the stakeholders? Is it truly in the *patient's* best interest, or are we simply throwing caution to the wind? If the question is, can a patient be discharged home immediately after colectomy? The answer is “yes.” However, the better question is, *should* a patient be discharged home immediately after colectomy? Common sense and prudence would argue that the answer is “no.”

Innovations in surgery and medicine must always be patient centered. The impetus for progress should always be aimed at the betterment of patient care. In the case of same-day

colectomy, one must wonder who exactly is the beneficiary? Perhaps a better approach would be to consider shortening length of stay to just 1 or 2 days rather than jumping the gun and sending patients home on the same day of colectomy.

While it is exciting to know that technology and ERAS tactics have become so advanced that we now are able to discharge patients home on the same day as major surgery, it is imperative that we keep the patient's best interests in mind—because nothing is more important.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical approval This is an editorial and ethical approval is not applicable.

Informed consent This article does not involve patient care, therefore informed consent is not applicable.

References

1. Ljungqvist O, Scott M, Fearon KC (2017) Enhanced recovery after surgery: a review. *JAMA Surg* 152(3):292–298
2. Gignoux B, Pasquer A, Vulliez A, Lanz T (2015) Outpatient colectomy within an enhanced recovery program. *J Visc Surg* 152(1):11–15
3. Curfman KR, Poola AS, Blair GE, Kosnik CL, Pille SA, Thilo EL, Hawkins ME, Rashidi L (2022) Ambulatory colectomy: a pilot protocol for same day discharge in minimally invasive colorectal surgery. *Am J Surg* 224(2):757–760
4. Wick EC, Shore AD, Hirose K, Ibrahim AM, Gearhart SL, Efron J, Weiner JP, Makary MA (2011) Readmission rates and cost following colorectal surgery. *Dis Col Rectum* 54(12):1475–1479
5. Wolthuis AM, Bislenghi G, Fieuids S, de Buck A, van Overstraeten BG, D'Hoore A (2016) Incidence of prolonged postoperative ileus after colorectal surgery: a systematic review and meta-analysis. *Colorectal Dis* 18(1):1–9
6. Platell C, Barwood N, Dorfmann G, Makin G (2007) The incidence of anastomotic leaks in patients undergoing colorectal surgery. *Colorectal Dis* 9(1):71–79
7. Hyman N, Manchester TL, Osler T, Burns B, Cataldo PA (2007) Anastomotic leaks after intestinal anastomosis: it's later than you think. *Ann Surg* 245(2):254
8. McLemore EC, Lee L, Hedrick TL, Rashidi L, Askenasy EP, Popowich D, Sylla P (2022) Same day discharge following elective, minimally invasive, colorectal surgery: a review of enhanced recovery protocols and early outcomes by the SAGES Colorectal Surgical Committee with recommendations regarding patient selection, remote monitoring, and successful implementation. *Surg Endosc* 36(11):7898–7914
9. Singh PP, Zeng IS, Srinivasa S, Lemanu DP, Connolly AB, Hill AG (2014) Systematic review and meta-analysis of use of serum C-reactive protein levels to predict anastomotic leak after colorectal surgery. *Brit J Surg* 101(4):339–346

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.