Chapter 17
Inflammatory Bowel Disease

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BACKGROUND

Despite the widespread use of medical therapy in the management of inflammatory bowel disease (IBD), up to 30 % of patients with ulcerative colitis (UC) and 70 % of patients with Crohn's disease (CD) will require intra-abdominal surgery [1, 2]. Patients with IBD are at risk for postoperative complications including surgical site infection, intra-abdominal abscess, bacteremia, strictures and fistulae, small bowel obstruction, portal vein thrombosis, and poor wound healing including anastomotic leak and wound dehiscence [3–6].

This chapter focuses on evidence for IBD patients undergoing intra-abdominal surgery; however, the medication recommendations are applicable for IBD patients undergoing other types of surgery.

PREOPERATIVE EVALUATION

HISTORY AND PHYSICAL EXAMINATION

In addition to a standard comprehensive physical examination, the medical consultant should assess the patient for risk factors for post-surgical complications.

- Examine for fistulizing disease and evidence of intra-abdominal abscess
- Evaluate for symptoms of occult infection including fevers, chills, and night sweats
- Evaluate for symptoms of hypothalamic pituitary adrenal (HPA) axis suppression if glucocorticoids have been taken in the previous 3 months; observe for Cushingoid features (see Chap. 14)
- Assess for evidence of malnutrition

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LABORATORY WORK-UP

- CBC—many immunomodulators used to treat IBD can cause anemia and leukopenia.
- Basic metabolic profile (BMP)—look for evidence of acute kidney injury (AKI) or chronic kidney disease (CKD) which can be caused by aminosalicylates and methotrexate.
- Consider liver function tests (LFTs)—some immunomodulators can cause hepatotoxicity.
- Glucose—need to optimize perioperative glycemic control if on glucocorticoids.

RISK STRATIFICATION

Most procedures for IBD are considered moderate or major surgeries and may involve a two- or three-stage operation. Several factors may increase the risk of morbidity and mortality.

- Patients with more extensive small bowel and colon involvement are at higher risk than those with only ileal involvement [7].
- Comorbid conditions such as malnutrition and anemia, as well as older age, may contribute to worse postoperative outcomes [5, 8].
- The use of glucocorticoids and narcotics has been associated with increased mortality and postoperative morbidity [7].

PERIOPERATIVE MANAGEMENT

MEDICATION MANAGEMENT

Appropriate perioperative medication management for patients with IBD remains challenging. Since the advent of biologic agents to control IBD (infliximab, adalimumab, and certolizumab pegol), numerous studies evaluating the postoperative complications in patients on anti-TNF alpha therapy have shown conflicting results. Most of these studies have been limited by retrospective design, small sample size, and an inability to control for confounders [9, 10]. However, current data and expert opinion indicate that anti-TNF alpha agents should be continued during the perioperative period [1, 2, 4, 6, 11, 12]. Additionally, many clinicians feel that patients on intermediate- and high-dose steroids should receive stress-dose steroids perioperatively (see Table 14.2 for dosing recommendations depending on preoperative dose and surgical risk) [8]. See Table 17.1 for other medication recommendations.

TABLE 17.1 MEDICATION MANAGEMENT DURING THE PERIOPERATIVE PERIOD[a]

Drug	Recommendation for practice	Evidence level[b]
Glucocorticoids	Continue; administer stress dose	
5-ASA	Discontinue on day of surgery and resume 3 days after surgery if normal renal function	C
Azathioprine, 6-MP	Discontinue on day of surgery and resume 3 days after surgery if normal renal function	B, C
Methotrexate	Continue, unless previous poor wound healing or postoperative infections	B, C
Cyclosporine	Continue but carefully monitor for opportunistic infectious complications	B, C
Infliximab	Continue without interruption	B

Adapted with permission from [8]
[a]5-ASA = 5-aminosalicylic acid; 6-MP = 6-mercaptopurine
[b]Evidence level A = multiple populations evaluated (trials and clinical registries), multiple randomized clinical trials, or meta-analysis; evidence level B = limited populations evaluated, data derived from a single randomized trial or nonrandomized studies; evidence level C = very limited populations evaluated or consensus opinion of experts, case studies, or standards of care

MONITORING/PREVENTION OF COMPLICATIONS

Patients undergoing surgery for IBD present clinicians with unique postoperative challenges that can delay recovery including limited options for pain management, hyperglycemia in patients on glucocorticoids, and poor nutritional status. The following measures may help guide clinicians in the appropriate postoperative management of these patients.

- Close attention to perioperative glycemic control for patients on glucocorticoids given that persistent hyperglycemia can delay wound healing and lead to surgical site complications.
- Attempt to minimize the use of narcotic analgesia, though it is important to note that narcotic agents are preferred over other pain medications, as studies have shown a possible association between NSAID use and IBD flares [13].
- Transfuse to maintain hemoglobin >7 g/dL.
- Close collaboration with nutrition colleagues to maintain adequate supplementation and aid postoperative healing—patients

may need TPN depending on underlying malnutrition and disease severity particularly if patient is undergoing a two- or three-stage procedure.

- Early antibiotic therapy and surgical exploration if concerned for intra-abdominal source of sepsis.

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