

ADVANCES IN IBD

Current Developments in the Treatment of Inflammatory Bowel Disease

Section Editor: Stephen B. Hanauer, MD

Surgical Risks in Patients on Inflammatory Bowel Disease Medications

Bret A. Lashner, MD

Director of the Center for
Inflammatory Bowel Disease
Department of Gastroenterology
Cleveland Clinic
Cleveland, Ohio

G&H What risks are associated with perioperative use of anti-tumor necrosis factor agents?

BL Patients who are taking anti-tumor necrosis factor (TNF) agents are immunosuppressed and more prone to develop infections. Therefore, the principal risks after surgery in patients who are on anti-TNF agents are infectious risks, especially the risk of intra-abdominal abscesses. In a study conducted at Cleveland Clinic in which we examined Crohn's disease patients being treated with infliximab (Remicade, Centocor), we found that postoperative risks were markedly elevated among patients who had received infliximab within 3 months of surgery compared to patients who had not received infliximab. The main risks we identified were postoperative infections and readmission to the hospital within 30 days after surgery. In most cases in which patients were readmitted to the hospital, readmission was related to infection.

G&H Are there any other major risks (or benefits) associated with perioperative use of anti-TNF agents?

BL The body needs the immune system to fight off infection, so infection is the main risk in these patients. A small surgical leak that would be easily handled by an

immunocompetent patient may blossom into a large abscess in someone who is taking an anti-TNF agent.

In terms of benefits associated with perioperative use of anti-TNF agents, there is a theoretical possibility that anti-TNF medications could improve wound healing after surgery, but I believe the immunosuppressive effect of these drugs outweighs whatever wound-healing benefits they may provide. In my patients, therefore, I typically stop immunosuppressive therapy as early as I can before surgery.

G&H Are other inflammatory bowel disease therapies associated with increased surgical risks?

BL Steroids can be associated with surgical risks, as these drugs can make it very difficult for the surgeon to perform the procedure; if a patient is currently taking steroids, the bowel becomes very friable and difficult to handle. As a result, postoperative complications such as infection often occur in patients who are taking steroids.

Another group of drugs that might pose a risk are immunomodulators, such as methotrexate, azathioprine, or 6-mercaptopurine. I do not believe that these drugs are associated with large risks, but surgeons at Cleveland Clinic still ask that patients stop these medications prior to surgery, if possible.

G&H What data are available regarding the effect of anti-TNF agents on surgical outcomes?

BL There are many studies on this topic, and they show conflicting results. The Cleveland Clinic study showed an increased risk of complications in patients on anti-TNF therapy, but some studies show no association between use of anti-TNF agents and increased postsurgical risks. Our surgeons prefer to wait at least 30 days after stopping an anti-TNF agent before performing surgery, but

some patients need surgery immediately, so surgeons cannot always wait for the effect of the anti-TNF agent to wear off.

G&H Does the type of surgical procedure affect the risk of postoperative complications?

BL Infection is a ubiquitous problem that can occur with any surgical procedure, but I believe that bowel resections probably have the highest risk of complications. The bowel is not sterile and bowel resection involves cutting into tissue that has bacteria in it, so this procedure could theoretically lead to infections.

G&H If patients are taking anti-TNF agents preoperatively, should these medications be halted before surgery?

BL I prefer to have patients stop taking anti-TNF agents at least 30 days before surgery, if possible. In sicker patients who are not able to function unless they have surgery, the surgeon may need to operate immediately, but this situation is not preferred. For example, if a resection must be performed within the 30-day window, the surgeon may choose to use an ileostomy to divert the stool and protect the patient from potential leaks at the anastomosis. Thus, it is in the patient's best interest to have the surgery at least 30 days after stopping the anti-TNF agent.

G&H Are there any official guidelines regarding the use of inflammatory bowel disease therapies in patients who are undergoing surgery?

BL No. Clinical decisions about these cases are based solely on the surgeon's review of the literature, which

consists mostly of case series or epidemiologic studies. Overall, the literature on this topic is scant.

G&H What future work is needed to help minimize surgical risks in patients who are on inflammatory bowel disease therapies?

BL A study in which large numbers of patients are studied epidemiologically to document the surgical risks associated with inflammatory bowel disease medications would be quite helpful. Alternatively, a confirmatory study that replicated the findings of the Cleveland Clinic study would also be beneficial. If a similar study were done at a different medical center and found the same results, that data would add to our understanding of the association between inflammatory bowel disease therapies and surgical risks. We do not necessarily need to do randomized clinical trials in this area, but better observations of larger numbers of patients would be valuable.

Suggested Reading

Appau KA, Fazio VW, Shen B, et al. Use of infliximab within 3 months of ileocolonic resection is associated with adverse postoperative outcomes in Crohn's patients. *J Gastrointest Surg.* 2008;12:1738-1744.

Holubar SD, Cima RR, Pemberton JH. Does infliximab increase complications after surgery for inflammatory bowel disease? *F1000 Med Rep.* 2009;1:10.

Yang Z, Wu Q, Wu K, Fan D. Meta-analysis: pre-operative infliximab treatment and short-term post-operative complications in patients with ulcerative colitis. *Aliment Pharmacol Ther.* 2010;31:486-492.

Ferrante M, D'Hoore A, Vermeire S, et al. Corticosteroids but not infliximab increase short-term postoperative infectious complications in patients with ulcerative colitis. *Inflamm Bowel Dis.* 2009;15:1062-1070.

Mor IJ, Vogel JD, da Luz Moreira A, Shen B, Hammel J, Remzi FH. Infliximab in ulcerative colitis is associated with an increased risk of postoperative complications after restorative proctocolectomy. *Dis Colon Rectum.* 2008;51:1202-1207; discussion 1207-1210.