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Invited Commentary

Proximal diversion after colectomy: The debate continues

Anastomotic leak can be one of the most devastating complications after colon surgery. Numerous studies have evaluated ways to prevent or mitigate anastomotic leaks and one of those strategies is to use a diverting ostomy. However, ostomies have their own complications and sometimes significant morbidity. Deciding which patient needs fecal diversion is a decision made with careful preoperative evaluation and intra-operative judgment. Assessing these variables can be extremely challenging, and as the authors highlight, are often made without quality data. The study "Significant Morbidity Is Associated With Proximal Fecal Diversion Among High-Risk Patients Who Undergo Colectomy: A NSQIP Analysis" by Yu-Wei et al.[1] challenges our current literature and provides an updated assessment of fecal diversion in colectomy patients.

The article highlights the morbidity associated with fecal diversion, including longer length-of-stay, high renal injury rates, and higher readmission rates. Fecal diversion can also be a significant challenge for an already high-risk surgical patient. These patients are often on immunosuppression and may have baseline kidney disease. Subjecting these patients to potential dehydration and a second operation carries substantial risk. Recent evidence shows that patients undergoing colorectal surgery are not only at higher risk for AKI during the perioperative period, but this risk persists at least up to a year after surgery.[2] These complications also carry significant cost for the patient and the healthcare system. Another strong point in this article is the use of propensity matching-analysis that included most of the major risk factors for anastomotic leak. The results showed that after propensity matching, the leak rate was only slightly higher in the colectomy only group at 5.1% vs 3.8%, but not significant, $p = 0.9$.

The authors argue that the morbidity of an ileostomy outweighs the small benefit in anastomotic leak reduction in patients undergoing a colectomy. In fact, the morbidity of an ileostomy is quite well known and many have written significant studies trying to understand the risks and prevent the complications.[3,4]

While the basic argument is strong, there are several important points to consider before we make broad conclusions that fecal stream diversion is unnecessary after colon surgery:

1. Fecal diversion does not prevent anastomotic leaks. This cannot be argued. However, a proximal diversion most certainly mitigates the severity of a leak and that played out in the NSQIP data from this article.[5–7] As the authors note, "Colectomy only patients had three times the reoperation rate for an anastomotic leak when compared to the CWI patients". We know that not all outcomes or complications are the same. For instance, a patient that stays 1–2 days longer in the hospital or has an acute kidney injury that resolves is different than a patient that has an anastomotic leak that requires a second operation, fecal diversion (which now carries all the above risk), and now a higher risk for mortality.[8] This example is obviously the extreme, but our job as surgeons is to mitigate these severe risks and prevent the devastating complications.
2. The decision to use proximal diversion is nuanced and dependent upon the operating surgeon.[9] IBD patients are a unique population and the majority of patients in this study that underwent an ileostomy were patients with Crohn's disease.[10] In the era of biologics, biosimilars, and other immunosuppressives, this patient population can be very complex to manage and often require fecal diversion for even right-sided colectomies. It is not clear if NSQIP accurately accounts for the nuances and complexity that lead a surgeon to employ a proximal diversion in a given patient.[9]

The above only highlight the need for a more accurate prediction tool or model for anastomotic leak stratification. Risk factors for anastomotic leak are well known, but there is no well-validated model to use for prediction of anastomotic leak. Moving forward, we should focus on prediction models that help stratify patients into categories that help the surgeon better decide which patient will benefit from fecal diversion.

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