may influence the generation of gastrointestinal symptoms in UC. However, there was no association between either perceived stress or symptom reporting and inflammatory disease activity after either 3 or 6 months of follow-up.

The existence of a bidirectional relationship between stress and IBD activity is of interest. This highlights that brain–gut interactions may influence the natural history of IBD, and that this pathway could provide a target for novel therapeutic interventions. Although the relationship between gastrointestinal symptoms and psychological comorbidity in IBD is relatively novel, prior research in irritable bowel syndrome supports these observations (Gut 2012;61:1284–1290) and, given that there is an evidence base for the use of antidepressant and psychological therapies in this disorder (Gut 2009;58:367–378; Am J Gastroenterol 2014;109:1350–1365), it follows that trials of these interventions in a subset of patients with IBD may also be of value. To date, randomized trials examining their efficacy in IBD are sparse and of poor quality (Inflamm Bowel Dis 2017;23:534–550). Moreover, recruitment of patients without coexisting psychological comorbidity in such trials is likely to result in an underestimation of any effect of the intervention, as seen in a recent meta-analysis of trials of psychological therapies in IBD (Lancet Gastroenterol Hepatol 2017;2:189–199).

Although the findings of this study highlight the potential influence of psychological comorbidity on symptom reporting in IBD, there was no association between inflammatory disease activity and either symptom reporting or perceived stress. At present, disease activity assessment traditionally encompasses physician's global assessment of patient-reported symptoms, in combination with objective markers of inflammatory disease activity, including fecal biomarkers of intestinal inflammation or endoscopic/histologic evidence of mucosal inflammation. More recently, a move toward a treat-to-target approach to the management of IBD has been advocated by some, where clinical decision making is based on objective evidence of inflammatory disease activity, rather than the presence of symptoms in isolation. The efficacy of this strategy remains uncertain, but if evidence to support its effectiveness emerges, it would limit the potential value of these findings, given that perceived stress at baseline only seemed to influence subsequent symptom reporting, and not the presence of inflammatory disease activity. That said, symptom reporting independent of the presence of inflammatory disease activity is associated with psychological comorbidity, reduced quality of life, and increased health care use in patients with IBD (Inflamm Bowel Dis 2017;23:325–331), highlighting that the relationship between perceived stress at baseline and subsequent symptom reporting observed in this study may have other deleterious consequences.

Limitations include the relatively small sample size and the lack of the use of gold standard investigations for the assessment of inflammatory disease activity, both at baseline and during longitudinal follow-up. Furthermore, Sexton et al fail to provide data on longitudinal disease outcomes of patients included in their initial cohort. Without these data, the impact of perceived stress on the likelihood of a flare of disease activity, or the need for glucocorticosteroids, escalation of medical therapy, or surgery, is uncertain. In addition, perceived stress is only one aspect of psychological ill health that may be observed in patients with IBD. Data concerning the temporal relationship between symptom reporting, inflammatory disease activity, and other psychological disorders including anxiety, depression, or somatization would be valuable, but are not addressed by this study.

In conclusion, Sexton et al present novel data on the existence of a bidirectional relationship between perceived stress and symptom reporting in IBD. Their findings highlight the need for a better appreciation of the impact of psychological comorbidity in IBD, and suggest, but do not confirm, that the presence of stress may negatively impact disease outcomes. The results of their study also support a potential role for brain–gut interactions in the natural history of IBD. All of this suggests that, in a subset of patients with IBD, there may be a need for a different approach to disease management.

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Esophageal Dilation in Eosinophilic Esophagitis: Not Just for Adults Anymore

Menard-Katcher C, Furuta GT, Kramer RE. Dilation of pediatric eosinophilic esophagitis: adverse events and short-term outcomes. JPGN 2017;64:701–706.

Eosinophilic esophagitis (EoE) is a chronic immune/antigen-mediated disorder characterized by eosinophilic infiltration of the esophageal mucosa (J Allergy Clin Immunol 2011;128:3–20; Gastroenterology 2015;148:1143–1157). The chronic esophageal inflammation increases the risk of developing fibrosis, esophageal strictures, and long-segment narrowing, but this has largely been noted in adult patients (Gastrointest Endosc 2014;79:577–585). When these complications occur, esophageal dilation may be necessary. Although there was originally a concern that this procedure held significant risks in EoE, recent studies primarily examining adult patients demonstrate that the risk of serious complications such as perforation is low and that dilation can be safely performed (Am J Gastroenterol 2016;111:206–213; Gastrointest Endosc 2017;86:581–591.e3). However, there are limited data regarding safety and tolerance outcomes in children with EoE who require esophageal dilation.

The study by Menard-Katcher et al is one of the first to assess the adverse event rate and short-term outcomes of

esophageal dilation in children. They aimed to evaluate differences in dilation-related complications between patients with EoE and without EoE as well as those undergoing standard upper endoscopy. This study is a retrospective assessment of children 18 years and younger at a tertiary academic medical center over a 5-year period. Of the 451 total dilations identified, 68 were performed in 40 EoE patients. Of the EoE patients, 43% required a repeat dilation during the study period. Non–wire-guided bougies (Maloney dilators) were used for the majority of the procedures (72%), with the remainder completed with through-the-scope balloons. There were no major complications, such as perforations or significant hemorrhage. Chest pain was reported after 14.7% of EoE dilations. Dilation-related adverse events rates of grade 2 or higher (those requiring unanticipated medical intervention) were seen in 2.9% of EoE and 3.1% of non-EoE patients ($P > .5$). In the EoE patients, the 2 adverse events were postdilation chest pain requiring chest radiographs and chest pain requiring overnight observation for analgesia.

There are several additional findings of note. First, there were no associations between postprocedural pain and dilation method, final dilator size, medical therapy, or degree of esophageal eosinophilia. Pain (a grade 1 adverse event) was the most common postprocedural event, and the majority of these patients required reassurance alone. Adverse events rates were higher for patients undergoing dilations than for those undergoing diagnostic upper endoscopy alone, but there was no difference in the event rate between dilations between EoE and non-EoE dilations. Notably, one-half of the patients had dilation at their diagnostic endoscopy before starting EoE-specific treatment, and in the remainder dilation was performed when symptoms persisted despite EoE-directed therapy. The authors conclude that, in the appropriate clinical setting, dilation can be performed safely in children with fibrostenotic EoE. Importantly, no esophageal perforations or serious bleeding events occurred, even among those undergoing repeated dilations.

Comment. Esophageal remodeling complications of EoE include esophageal strictures and long-segment narrowing (Gastroenterol Clin North Am 2014;43:297–316). Fibrosis is felt to develop from long-standing or untreated eosinophilic inflammation, and a clear relation has been shown between diagnostic delay and stricture prevalence (Gastroenterology 2013;145:1230–1236.e2; Gastrointest Endosc 2014;79:57–585). Often, patients with EoE who develop fibrostenotic disease may require multiple dilations over the course of their lifetime (Am J Gastroenterol 2016;111:206–213). Therefore, it is important to understand the risks and adverse events associated with dilations in EoE patients. Initial studies of dilation in EoE were quite worrisome, with high rates of perforation and hospitalization (Clin Gastroenterol Hepatol 2007;5:1149–1153), but more recent adult studies involving large populations with EoE demonstrate the risk of serious complications (including perforation, bleeding requiring transfusion, or hospitalization for any reason) is low (Gastrointest Endosc 2017;86:581–591.e3; Aliment Pharmacol Ther 2017;46:96–105). Unfortunately, there is a knowledge gap in pediatric EoE-associated strictures regarding safety, tolerance, and a role for dilation. One potential reason for this is that fibrostenotic disease was felt to be distinctly uncommon in children (Clin Gastroenterol Hepatol 2012;10:988–996.e5), possibly because of an "earlier" phenotype with shorter diagnostic delay (Gastrointest Endosc 2014;79:577–585). Another potential reason, however, is that endoscopy is relatively insensitive for visually detecting esophageal strictures or narrowing, a finding demonstrated in adults (Aliment Pharmacol Ther 2014;40:1333–1340) as well as in children by Menard-Katcher and colleagues (J Pediatr Gastroenterol Nutr 2015;61:541–546).

There is likely an unrecognized need for pediatric esophageal dilation in EoE, but a lack of an extensive evidence base. This present study by Menard-Katcher et al attempts to bridge this gap by describing their experience and outcomes with esophageal dilation in children at a tertiary academic center over 5 years. This is the largest such experience published to date. In 40 patients with EoE who underwent a total of 68 esophageal dilations, the procedure was safe, well-tolerated, and did not have an adverse event rate that was different from children undergoing dilation for non-EoE indications. Similar to findings in the adult literature (Am J Gastroenterol 2010;105:1062–1070), chest pain seemed to be the most common event after dilation in children, although this symptom was readily managed and providing reassurance to the patient and the family was important. It must be noted, however, that follow-up was relatively short.

This study also fits well with the previously reported data on dilation in children with EoE. Of the 2 prior publications, one single-center retrospective review of 50 pediatric EoE cases reported that 19 dilations with wire-guided Savary bougies were safely performed in 10 children, with a subsequent improvement in esophageal narrowing (J Pediatr Gastroenterol Nutr 2016;63:474–480). A second single-center retrospective study of 13 EoE cases identified 4 children with severe esophageal strictures requiring balloon dilation, and this procedure had no associated complications and was clinically effective (J Pediatr Gastroenterol Nutr 2010;50:516–520).

What is the role of esophageal dilation in children with EoE? Although the data are limited, and although fibrostenotic EoE is less commonly seen in children than in adults, it is clear that there is a population of children who have esophageal strictures and narrowing, either detected endoscopically or by barium esophagram. In this subset, esophageal dilation is an important treatment option. The 2 prior pediatric studies of dilation are reassuring, but were limited by their sample size. The study by Menard-Katcher et al extends these data and provides additional evidence that dilation can be performed safely in children, and it seems that either a bougie or a balloon technique is

effective, similar to data in adults. Ideally, a prospective study with long-term follow-up would answer this question more directly and provide potential predictors for optimal timing, technique, and those at greatest risk for complications. Until that time, however, for children with documented esophageal strictures or narrowing, and in those with persistent swallowing symptoms despite anti-inflammatory treatment where fibrosis is a concern, referral for consideration of esophageal dilation at an expert center would be justified.

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