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EDITORIAL

The Prevalence and Risk of Fecal Incontinence in Patients with Cystic Fibrosis: Nothing to Sneeze At

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Fecal incontinence is a disturbing and embarrassing symptom that often is triggered by increased abdominal pressure, as can occur with coughing. Since frequent coughing complicates pulmonary diseases such as cystic fibrosis, it is likely that fecal incontinence is associated with coughing. In this issue of *Digestive Diseases and Sciences*, Benezech et al. [1] surveyed the prevalence of fecal and urinary incontinence in adult patients with cystic fibrosis in a French specialty clinic. In 155 patients surveyed, this is the largest published study of fecal incontinence in cystic fibrosis. The authors made observations that will benefit clinicians managing these patients: (1) The prevalence of fecal incontinence was 26%, higher than current estimates of the population prevalence of approximately 10% [2]; (2) episodes of fecal incontinence often occurred when patients were coughing, sneezing, or laughing and therefore likely increasing intra-abdominal pressure; (3) comorbid urinary incontinence was a significant risk factor for fecal incontinence after multivariate adjustment; (4) age (in a very young population with an average age of 31 years) was a significant risk factor when tested alone (univariate analysis) but was not significant after multivariate adjustment; and (5) other risk factors for fecal incontinence commonly found in community surveys such as diarrhea, constipation, and poor health status were not significant predictors of fecal incontinence in this subset of individuals with cystic fibrosis.

How do the results of this study compare with the existing literature? There are few studies of fecal incontinence in cystic fibrosis in part because fecal incontinence is a nonfatal illness that adversely affects quality of life but may be of diminished importance in people who have a comorbid illness with a high mortality rate. Yet, with improved therapy these patients are living longer, and quality-of-life issues such as fecal incontinence are becoming more important. Moreover, coughing-induced fecal incontinence may discourage some cystic fibrosis patients from coughing in order to clear their airway. In a recent study [3] of 60 adults with cystic fibrosis, reported incontinence for flatus was 43% in women and 25% in men, incontinence for diarrhea was 21% in women and 6% in men, and incontinence for stools of normal consistency was 11% in women and 3% in men. No overall estimate of the prevalence of fecal incontinence was included in that study, and no risk factors were identified. The authors of this study did not identify any other studies of fecal incontinence in cystic fibrosis, and none were listed in PubMed or similar databases.

The study by Benezech and colleagues has some significant weaknesses in that fecal incontinence was assessed with the St. Mark's incontinence score [4], but the criteria for what constituted a fecal incontinence case were not discussed. In community surveys, the most common form of fecal incontinence is involuntary loss of flatus, which is often excluded from the definition since it occurs in healthy individuals. Moreover, the authors comment that the frequency of leakage was rarely greater than once a month. In many studies, fecal incontinence is limited to cases with solid or liquid stool leakage at least monthly. The data might be more compelling if the severity of incontinence was incorporated into the analysis.

In community studies of fecal incontinence, the strongest risk factors are diarrhea and strong urge sensations preceding defecation. Urge sensations were recorded but not presented in the results. Diarrhea was measured with a stool frequency scale and occurred in 4 of 155 cases, which is unusually low. A Bristol Stool Scale [5] would provide a more definitive method of assessing diarrhea.

An important finding in the study was that fecal incontinence was usually associated with coughing, sneezing, or laughing, as was previously reported for urinary incontinence. This occurs but is uncommon in community surveys. Unfortunately, there are no measures of anorectal physiology

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to substantiate the authors' speculation that this is the trigger for fecal incontinence, and the subjects were not asked whether this symptom had caused them to avoid coughing. Anorectal physiology would be a useful additional measure in a future study to see whether cystic fibrosis is associated with abnormalities in external anal sphincter contraction.

The observation that fecal incontinence may be triggered by coughing could be used by clinicians to educate patients. Most likely this will take the form of telling patients that coughing may increase the risk of stool leakage, but they should not avoid coughing to clear their airway. Coughing while in a restroom when there is less risk of fecal incontinence might also be recommended. The paper by Benezech and colleagues provides important insights into a factor that interferes with the quality of the patient's life and may adversely influence their rehabilitation.

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