ADVANCES IN IBS

Current Developments in the Treatment of Irritable Bowel Syndrome

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Keys to the Diagnosis and Management of Patients With Fecal Incontinence



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G&H What is the prevalence of fecal incontinence in the adult population?

SR Surveys have indicated a prevalence of approximately 9% to 10% in the United States. A recent study reported a 14% prevalence, although this study was Internet-based and, thus, may not have included many elderly patients, as they may not be as computer-savvy as younger patients.

It is safe to say that 1 in 7 Americans currently suffers from fecal incontinence. Prevalence appears to be equal in men and women, although women outnumber men almost 3 to 1 when it comes to gastroenterology clinic visits and health care–seeking. Men may be too embarrassed to bring the issue of fecal incontinence to the attention of a physician, but when asked about it, they will admit and discuss it.

Also, extracting information from a patient about fecal incontinence depends on how the question is asked. Asking patients whether they have daily leakage vs whether they ever have had leakage or have had leakage in the past month will elicit different responses that a clinician may interpret differently. It is important to remember that leakage is not a physiologic event that a healthy adult should have at any time, even once a month or once a year. Not having the capacity to control bowel evacuation or having leakage unaware of its occurrence signals an abnormality.

G&H What is the impact of physician-patient communication regarding prevalence and outcomes associated with fecal incontinence?

SR Prevalence is likely much higher than what statistics show, in part, because the patient is not coming forward about the problem and physicians are not proactively asking about it. Physicians and other health care providers are as much responsible for the underreported prevalence as patients. Many physicians in clinical practice are dismissive; they do not ask the questions that they should and may not know how to proceed with the responses they receive from patients. This results in underrecognition and underdiagnosis of fecal incontinence.

Consider the patient perspective. A patient will present to a clinician and say that he or she has diarrhea. The patient may be trying to say that he or she has some type of abnormal bowel pattern or bowel problem. Now the onus is on the clinician to extract information, but very few clinicians do. Most clinicians will accept that the patient has diarrhea and make assumptions about frequency and cause. However, it is important that the clinician question the patient about whether the diarrhea is so overwhelming that he or she does not make it to the restroom. If the answer is yes, the diagnosis is fecal incontinence, but the majority of clinicians fail to ask this simple question. Because the question is not asked, the patient does not provide the relevant information that will affirm a diagnosis. The clinician may then embark on a potentially unnecessary and extravagant workup that can include repeated stool and blood tests, colonoscopies, and computed tomography scans. When the test results come back normal, the patient is left in a quandary and leaves the clinician's care without having the problem addressed.

G&H What are notable risk factors for fecal incontinence?

SR In women, pregnancy can be a risk factor, particularly if giving birth involves pelvic tissue damage, such as injury inflicted by forceps use or the unfortunate occurrence of a significant tear. Neurologic or back injuries are other common risk factors. Also, chronic diarrhea can progress to fecal incontinence owing to severe irritation of the rectum or irritants in stool. Further, any condition that changes the ability of rectal capacity can result in fecal incontinence. These circumstances can include surgery or radiation to the rectal area.

G&H What is the preferred protocol for initial evaluation of fecal incontinence?

SR Good history-taking is imperative; however, it is not perfect. A prospective study of 100 patients recently conducted at the Clinical Research Center at Augusta University showed that having the patient keep a stool diary is critical to accurate history-taking and treatment response. In this study, participants were given a 10-item questionnaire that they had to answer based on recall about their fecal incontinence symptoms. They then were instructed to keep a prospective stool diary of the same questions for 1 week.

A significant discordance was seen between the information provided in the questionnaire and the stool diary. The stool diary was a much better source of information on stool leakage and consistency. Fortunately, several very good applications have become available. FI Stool Diary, an application developed by a researcher at Augusta University, includes a 12-item questionnaire and has been validated. FI Stool Diary can assess severity based on information regarding frequency, consistency, precipitating events, and other factors recorded in the application. Also, paper-based diaries have been published in the *American Journal of Gastroenterology*.

In addition, a careful rectal examination, while being respectful to the patient, is important. This patient-centered approach can include the presence of a chaperone to help ensure that the patient understands, for example, why further testing may be needed. The next step is defining the cause of the problem. Tools such as anorectal manometry and balloon expulsion tests are very useful. Even radiologic testing, such as anal ultrasound or defecography, can help identify whether a torn muscle is the underlying cause of fecal incontinence. The team at Augusta University's Clinical Research Center has identified a simple comprehensive test for the neurologic integrity of the pelvic floor using magnetic stimulation. This test is called translumbosacral anorectal magnetic stimulation (TAMS). It is noninvasive and has revealed significant neuropathy in many patients.

G&H What treatment modalities are currently available?

SR Simple, conservative treatment consists of educating patients about fecal incontinence and instructing them to avoid precipitating events. For example, although many people love to have a meal followed by a cup of coffee and a walk, such a sequence of activities is ill-advised for an incontinent patient: the meal provokes a gastric-colonic response, coffee is a powerful colonic stimulant, and exercise also stimulates motility. This triad creates the perfect storm for a stool leakage or accident while the patient is out on the after-dinner walk.

Antidiarrheal therapies can be very effective but only in approximately 15% to 20% of patients. Another treatment is biofeedback, which can correct muscle weakness using behavioral techniques. Biofeedback provides resolution in approximately 50% to 70% of patients.

The traditional model of office-based biofeedback requires that the patient make 6 or even up to 10 visits to a specialty clinic. This may mean that some patients must drive very long distances to an appropriate care facility that is staffed with trained personnel or physical therapists. This scenario presents a significant challenge for many patients, which is increasingly being recognized by health care professionals and researchers.

Good devices for home-based biofeedback have been scarce; however, such a device was recently approved by the US Food and Drug Administration. The research center at Augusta University has tested it in a clinical trial setting and found it to be quite effective as a home biofeedback treatment.

Dextranomer is another treatment modality. It involves injection of small beads of dextran polymers into the anorectal region. The beads form a protective cuff or a buffer to stop stool leakage.

Another treatment modality is sacral nerve stimulation using the Medtronic InterStim system. The patient is outfitted with a pacemaker-like device with wires that continuously stimulate the sacral nerves that control stool events. In the case of a torn muscle, suturing the torn ends to reduce the size of the anorectal opening is usually useful for women postpartum, although the effect may not be sustained in the long term.

G&H What course of action is best when other modalities fail?

SR When treated appropriately as previously discussed, more than 90% of patients will improve. A small percentage of patients fail to respond for several reasons. One reason is nonadherence on the part of the patient. Another is that the patient is significantly disabled by comorbidities. A third reason is that the patient has severe neurologic problems. Examples include patients who have been involved in serious motor vehicle accidents or who have had multiple surgeries. Sometimes, these neurologic injuries are irreparable. In these challenging situations, ostomy is an option.

G&H What emerging treatments and research should clinicians be aware of?

SR One emerging treatment developed at Augusta University's Clinical Research Center is called translumbosacral neuromodulation therapy (TNT). TNT is similar to TAMS and involves the fecal delivery of magnetic energy through an insulated coil to the lumbosacral nerves that regulate anorectal function. The pulses generated are of the same strength as those of magnetic resonance imaging. The team at Augusta University's research center has shown that TNT mechanistically improves nerve function and substantively improves stool leakage. A sham-controlled study and long-term study are currently underway at Augusta University and Harvard University's Massachusetts General Hospital. These studies are being sponsored by the National Institute of Diabetes and Digestive and Kidney Diseases.

A multicenter study sponsored by the National Institutes of Health that the team at Augusta University also is involved with is the FIT (Fecal Incontinence Treatment) trial. This randomized study compares biofeedback with dextranomer injection.

Also, as mentioned, tools are becoming available for home biofeedback that should allow many more affected patients to receive treatment because they can do so in the comfort of their own home. The research center at Augusta University is working on a novel home biofeedback protocol for the treatment of constipation and fecal incontinence.

Thus, novel noninvasive tools are emerging for fecal incontinence. The repertoire of current and emerging tools holds the promise of improved outcomes for patients with fecal incontinence.

Disclosures

Dr Rao is a consultant for Neurogut, Inc.

Suggested Reading

Bharucha AE, Dunivan G, Goode PS, et al. Epidemiology, pathophysiology, and classification of fecal incontinence: state of the science summary for the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) workshop. *Am J Gastroenterol.* 2015;110(1):127-136.

Bharucha AE, Rao SSC, Shin AS. Surgical interventions and the use of deviceaided therapy for the treatment of fecal incontinence and defecatory disorders. *Clin Gastroenterol Hepatol.* 2017;15(12):1844-1854.

Rao SS, Benninga MA, Bharucha AE, Chiarioni G, Di Lorenzo C, Whitehead WE. ANMS-ESNM position paper and consensus guidelines on biofeedback therapy for anorectal disorders. *Neurogastroenterol Motil.* 2015;27(5):594-609.

Whitehead WE, Rao SS, Lowry A, et al. Treatment of fecal incontinence: state of the science summary for the National Institute of Diabetes and Digestive and Kidney Diseases workshop. *Am J Gastroenterol.* 2015;110(1):138-146.

Yan Y, Karunaratne T, Jimenez E, et al. Electronic APP vs paper form stool diary for fecal incontinence. *Am J Gastroenterol.* 2019;114:S1577-S1578.