Family Practice Grand Rounds

Irritable Bowel Syndrome

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DR. FRANK WIYGUL *(Associate Professor, Department of Family Medicine)*: Our speaker today is Dr. Dewey Chin, who will talk about irritable bowel syndrome.

DR. DEWEY CHIN *(Third-year family medicine resident)*: My talk today will focus on a syndrome considered by many to be the most frequent gastrointestinal tract disorder encountered by the family physician, probably representing up to 50 percent of all cases referred to the gastroenterologist by family physicians.[1] It has been called many names—functional bowel disease, irritable colon, mucous colitis, nervous colitis, and spastic colon.[2] I will refer to it as the irritable bowel syndrome.

To begin, let us discuss a case. Mrs. V. A. is a 51-year-old black woman with a history of diabetes mellitus (NPH insulin 25 units subcutaneously every morning), hypothyroidism (0.2 mg of levothyroxine daily), and hypertension (triamterene and hydrochlorothiazide combination by mouth daily) who presented with approximately a 20-year history of recurrent heartburn, excessive intestinal gas, nausea with occasional vomiting, abdominal pain, and constipation.

Workup for this problem over the past several years, prior to seeing us, included numerous upper gastrointestinal series, barium enemas, gall bladder studies, abdominal roentgenograms, proctosigmoidoscopy examinations, and stools for occult blood. All were normal except for one upper gastrointestinal series, which showed a duodenal diverticulum. An endoscopic examination in 1982 was normal except for gastric spasm and evidence of a mild pyloric deformity consistent with healed ulcer disease. The patient had been admitted to two different hospitals for abdominal complaints. In both cases the workups were negative.

In addition, the patient had a hysterectomy for uterine leiomyomas in 1978 and a partial thyroidectomy for a benign thyroid nodule in 1957. The family history is positive for diabetes mellitus in her grandmother and for heart disease and hypertension in her mother and sister.

The patient's social history is interesting in that the patient has a paranoid schizophrenic daughter

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determine the cause of irritable bowel syndrome.

DR. DORNFEST: Could you comment on differential diagnosis of irritable bowel syndrome?

DR. CHIN: The following diseases may mimic irritable bowel syndrome: (1) gastrogenic dietary factors such as excessive tea, coffee, cola beverages, and simple sugars (a good history should eliminate this possibility), (2) infectious enteritis such as amebiasis and giardiasis, (3) inflammatory bowel disease such as ulcerative colitis and Crohn's disease, (4) lactose intolerance, (5) laxative abuse (an easy test to eliminate this possibility is to add a few drops of sodium hydroxide solution onto a stool specimen—as most laxatives contain phenolphthalin, the stool will turn red), (6) drug-induced irritable bowel syndrome from such medications as antacids or antibiotics, (7) diverticular disease, (8) malabsorption diseases such as pancreatic insufficiency and celiac sprue, (9) metabolic disorders such as adrenal insufficiency, diabetes mellitus, and hyperthyroidism, (10) mechanical causes such as a fecal impaction, and (11) neoplasm.

Holmes and Salter[13] recognized the difficulty in deciding how extensive an investigation should be before accepting the diagnosis of irritable bowel syndrome with reasonable confidence. They also recognized that missing organic disease is a possibility, but felt that exhaustive investigation was not always in the patient's best interest. They decided to establish a set of criteria and to review all cases in a two-year period from 1973 to 1975. Follow-ups were also attempted six years later. The criteria used were as follows: (1) recurrent abdominal pain associated with a disturbance of bowel rhythm and sometimes the passage of mucous per rectum; (2) normal findings on physical examination, sigmoidoscopy, and double-contrast barium enema (normal blood count, sedimentation rate, and serum protein concentration); and (4) negative fecal occult blood test.

Ninety-one patients during the two-year period fulfilled these criteria. Seven died during the six-year period, six from nongastrointestinal-related causes and one from gastric carcinoma. Of the remaining, 77 patients were recalled (85 percent follow-up rate). Forty-four still had symptoms of irritable bowel syndrome, and 29 had no bowel problems. Repeat examinations led to a different diagnosis in only four cases. One had a gastric ulceration, another had jejunal diverticulae, and two had thyroid dysfunction. From this study, they concluded that only a minimal workup is necessary to diagnose irritable bowel syndrome with a high level of confidence. The only test they recommended adding is a thyroid function test.

Therefore, if we see someone in our clinic with suspected irritable bowel syndrome from history and physical examination, the minimal workup must include (1) panel 25 and serum thyroxin, (2) complete blood count with sedimentation rate, (3) stool examination, (4) sigmoidoscopy, and (5) double-contrast barium enema. These tests alone will eliminate 10 of the 11 conditions in the differential diagnosis. The only one probably not picked up is lactose intolerance, and one may try a therapeutic trial of a lactose-free diet to see whether any improvement results. Furthermore, if one wants to be more elaborate, one may order the hydrogen breath test, if available, to diagnose lactose intolerance.[14]

As noted in our retrospective study here, very few patients with suspected irritable bowel syndrome had proctosigmoidoscopy (10 percent) or other workup. Now that we have the 35-cm flexible proctosigmoidoscope available in our clinic, and as irritable bowel syndrome is such a common disorder, we should probably be doing more proctosigmoidoscopy examinations.

DR. ROBERT FORBES *(Assistant Professor of Family Medicine)*: Now that you have diagnosed irritable bowel syndrome, how are you going to treat it?

DR. CHIN: Approximately one quarter of patients who seek medical treatment for irritable bowel syndrome ultimately have a permanent remission regardless of treatment. However, there are several treatment modalities available for irritable bowel syndrome. Treating irritable bowel syndrome with fiber has been a standard treatment for a long time. There are basically four different groups of fibers (Table 4).[1] The first two groups are vegetable fibers, which increase stool bulk probably by increasing bacterial content. The best known example is psyllium hydrophilic mucilloid. The third group, which is wheat bran, increases stool bulk by its water-holding properties. All three types reduce transit time equally. The fourth

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Table 4. Types of Fiber Treatment for Irritable Bowel Syndrome

Functional Group	Constituents
1. Slow gastric emptying Fermentable substrate Bind bile acids	Karaya gum (sterculia gum) Mucilages (effersyllium, Metamucil) Algal polysaccharides Pectin substances
2. Water-holding Bind bile acids	Hemicelluloses (methylcellulose) (carboxymethylcellulose)
3. Water-holding May bind zinc ? Decrease colonic pressure	Cellulose (unprocessed wheat bran)
4. Antioxidant Bind metals	Lignin (not available commercially for irritable bowel syndrome)

group is not available commercially for irritable bowel syndrome.

There are very few studies on fiber treatment. In these studies, patients predominantly having diarrhea were less likely to improve, while those predominantly with constipation improved significantly. This latter group had an increase in stool weight and a decrease in transit time with fiber.[1] These patients should be asked to take approximately 14 g of bran each day or two tablespoons three times a day. Also, patients should be warned that there might be some increase in gas production when bran is first used, but that it will wear off by the end of the third week in 80 percent of patients. In the diarrhea-predominant patient, many do seem to respond better with groups 1 and 2 fibers as a result of a decrease in the fluidity of diarrhea stool. Dosage is one to two tablespoons with meals two to three times a day. It is important to tell patients who are thin to take one of the mucilages after meals, since it tends to suppress appetite, whereas obese patients may derive benefits from taking it before meals.[15]

As far as drug therapy is concerned, anticholinergics such as dicyclomine (Bentyl) have been used. However, there are only two groups of people who seem to respond to anticholinergics: (1) patients whose symptoms are induced by meals, in which case an anticholinergic 30 to 45 minutes before meals may be prescribed; and (2) patients who complain of tenesmus. In patients for whom diarrhea is the predominant symptom, opiates such as diphenoxylate plus atropine (Lomotil) and loperamide (Imodium) have traditionally been recommended. Also psychotropic drugs are useful, since 75 to 80 percent of irritable bowel syndrome patients suffer from some psychological disorder. There are other drugs being used, such as β-blockers, prostaglandin inhibitors, and peppermint oil, but all are experimental at this time. There is one study from England which suggests that a combination of drugs may be more successful than any one single drug.[16]

Another form of treatment is psychotherapy. In a study from Sweden, patients who received medical treatment plus psychotherapy were found to improve more than did those who received medical treatment only. The difference was more pronounced after a year's follow-up. The psychotherapy group showed further improvement, while the medically treated group deteriorated.[17]

Even with the different modalities available to treat irritable bowel syndrome, the results sometimes may be frustrating to the physician. The attitude of the physician is critical in the management of patients with irritable bowel syndrome. Successful management requires an interest in the patient and his disorder, and an understanding on the part of both patient and physician of what is known about irritable bowel syndrome. Above all,

irritable bowel syndrome must be recognized as a chronic disorder. Kirsner's approach[7] to the management of irritable bowel syndrome is especially useful in this respect. He proposes the following guidelines:

1. Establish conclusively the absence of serious organic gastrointestinal disease by selective, but adequate, diagnostic studies.
2. Define as clearly as possible individual causative or precipitating factors, including psychogenic difficulties.
3. Communicate clearly, tactfully, and honestly with the patient and the family as to the nature of the disorder, the origin of the symptoms, and the rationale of therapy.
4. Avoid any implication that irritable bowel syndrome is "imaginary," "unimportant," or "only nerves."
5. Maintain a kindly and professional interest in the patient, avoiding any suggestion of criticism or disapproval.
6. Once the diagnosis is established and treatment instituted, do not reverse direction and resume testing. Such a change decreases confidence in the entire medical effort.
7. Arrange regular visits for the patient and remain available for telephone conversations to answer questions and relieve any further anxiety.
8. Remain discretely alert for any new symptoms or clinical development in patients with irritable bowel syndrome.
9. Do not hesitate to review the situation if the therapeutic response is delayed, if bowel irregularity persists, or when nocturnal symptoms occur.

With respect to the patient presented earlier, V.A. has been treated with the various modalities mentioned today. In general, treatment has been successful. However, her irritable bowel syndrome still tends to flare up when she is under a great deal of stress. Flare-up under stress is not unusual. Remember, irritable bowel syndrome is a chronic disorder. Are there any questions?

DR. JOHN WORLEY *(Psychologist, Department of Family Medicine)*: With respect to gastrointestinal activity, some studies have suggested that particular emotional states can be related to the type of activity involved. The emotional state of fear or anxiety will result in hypermotility. The emotional state of anger will result in hypomotility. I do not know exactly how that fits into the diagnosis of irritable bowel syndrome, but it seems to fit in terms of some of the stressful life events that can result in these symptoms. The second comment concerns the role of psychotherapy in treating this kind of problem. There is no question that it can be very effective.

DR. FORBES: Irritable bowel syndrome can occur in infants. Poole[6] has noted that irritable bowel syndrome is the most frequent cause of chronic diarrhea in infants and children between eight months and three years who are gaining weight normally. They have normal physical findings and usually a family history of almost always one parent or someone in the close family having irritable bowel syndrome. It is interesting and still not explained that 70 percent of these children are male. They usually have loose stools during the day—seldom at night. Incidentally, if these children are hospitalized for workup, they usually have normal stools in the hospital. These children apparently have a heightened response to stimuli. Also, they frequently take a large amount of juice, in addition to meals, during the day. Often they will improve just by putting them back on a normal diet.

DR. DORNFEST: It is interesting to speculate on the relationship, if any, among infant colic, recurrent abdominal pain in children as the primary cause, and irritable bowel syndrome in adults. There has been some work showing that with follow-up, if a child has colic, he is very much more likely to end up with abdominal pain in childhood and abdominal pain and irritable bowel syndrome in adulthood.

DR. CHIN: That is right. Gwen, you have worked with a lot of patients with irritable bowel syndrome in terms of patient education. Do you have any comments on how you approach these patients?

GWEN MORRISON *(Family Medicine Nurse)*: Many of these patients are afraid that this problem is psychological and do not like to admit that it is. I have found that patient education pamphlets that present both dietary advice and psychological factors are quite helpful.

DR. DORNFEST: It seems to me that many

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patients with irritable bowel syndrome get better over time. What seems to happen in many instances is that they get tired of bothering the physician, especially when they realize they have a functional condition of little significance and can cope with it. Patients who have had a past history of irritable bowel syndrome are still having the same problem years later; they are just not complaining about it.

DR. DORNFEST: It has been my experience that the most specific symptom associated with irritable bowel syndrome is abdominal pain relieved promptly by the passage of stool or flatus. So, if you have a patient who presents to you with a story that for 15 years he has been having these symptoms, to what extent are you going to carry out the investigation that you mapped out? Usually when the patients come to you, they have had this condition for a long time.

DR. CHIN: If there has been no previous workup for this problem, the only procedures we would do are proctosigmoidoscopy and barium enema, together with the laboratory work discussed earlier. It is admittedly debatable how much workup is required for patients presenting with a classical history of irritable bowel syndrome.

DR. MARTINEZ *(Third-year family medicine resident)*: We have always been taught that irritable bowel syndrome is a diagnosis of exclusion.

DR. DORNFEST: I am not sure that that is necessarily the case. If such patients have a long history typical of irritable bowel syndrome traced even to childhood, it seems to me to be wasteful to do an extensive diagnostic workup.

DR. CHIN: Patients with irritable bowel syndrome consistently seem to have the same symptoms. If these symptoms change, then perhaps there is another underlying problem requiring additional diagnostic investigation.

DR. JACK HUDSON *(Third-year family medicine resident)*: Do these patients have an increased risk of gastrointestinal cancer, Crohn's disease, ulcerative colitis, any other gastrointestinal problems such as peptic ulcer disease, as they are under a lot of stress?

DR. CHIN: No, there does not seem to be an increased risk of cancer. Patients with irritable bowel syndrome seem to have a higher incidence of other chronic disorders. These chronic disorders include hypertension and peptic ulcer disease, but cancer is not one of them.

DR. DORNFEST: What about diverticular disease? We have spoken about an early association, perhaps even before irritable bowel syndrome manifests itself in adult life.

DR. CHIN: It is my impression that they may have more diverticular disease.

DR. WIYGUL: Dr. Chin, thank you for this very interesting presentation.

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