The irritable bowel syndrome (IBS) is the best known of the functional gastrointestinal tract disorders, all characterized by chronic or recurrent gastrointestinal tract symptoms not explained by structural abnormalities, infection, or metabolic changes on routine testing [1]. Patients with IBS suffer from chronic abdominal pain, usually in the lower abdomen, with a disturbed bowel pattern. The latter can be constipation, diarrhea, or alternating constipation and diarrhea. Although the range of prevalence rates for IBS in studies conducted throughout the world is broad (2%–25%), in the Western world it is generally agreed that 10% to 20% of adults meet diagnostic criteria for IBS [2,3]. Approximately 60% to 70% of IBS patients are women [4], making it a serious women's health concern.

The burden of IBS on society is substantial. As many as 28% of referrals for gastroenterology consultations are for IBS [5]. Absenteeism rates from work or school are significantly higher among patients with IBS than healthy individuals [4]. The cost of health services for patients with IBS is very high [6,7]. Although the overall impact of IBS in terms of daily physical and emotional functioning, interpersonal relationships, and psychologic distress is probably immeasurable, disease-specific health-related quality of life instruments have been developed in an attempt to estimate its individual and societal impact [8,9]. When associated with other, nongastrointestinal, functional disorders in the same patient, the burden on health care resources and the negative impact on quality of life is often increased [10,11].

CASE STUDY

Initial Presentation

A 32-year-old woman is referred for consultation. She complains of lower abdominal pain, alternating constipation and diarrhea, and abdominal distention with flatulence. She has had these symptoms on and off for as long as she can remember. Her appetite is normal, but she...
limits the food that she eats. Her weight fluctuates without any significant weight loss. She also suffers from heartburn and a feeling of early satiety after some meals.

She is single and lives with her mother. She has tried many jobs but is embarrassed that she has to take a lot of time off because of her abdominal pain and that when she is at work she has to go to the bathroom often. Her social life is very limited. She does not sleep well and is tired when she wakes up in the morning.

She has consulted with numerous physicians about these problems over the years and was told that she has IBS. She has undergone multiple diagnostic procedures (Table 1) and tried different treatments. The doctors have told her “there is nothing wrong with her” or that “it’s all in her head” and she has to “learn to live with it.”

**How is IBS diagnosed?**

### Diagnostic Criteria for IBS

There is no specific diagnostic test for IBS nor any pathognomonic sign or symptom. For many years IBS was considered a “diagnosis of exclusion.” This led to the conduct of multiple, unnecessary, and potentially dangerous diagnostic procedures. Over the past 15 years, expert working groups have developed symptom-based, consensus diagnostic criteria for IBS and the other functional gastrointestinal disorders [12]. Known as the Rome criteria (Rome II in its latest version) (Table 2), these criteria have contributed to positive developments in the field of functional gastrointestinal disorders. IBS can now be confidently diagnosed on the basis of a cluster of symptoms, a minimal diagnostic workup [13], and the absence of “red flags” (Table 3). Red flags are historical information or findings on diagnostic tests that lead the treating physician to believe that another diagnosis has to be considered. If any red flag is present, the workup has to be expanded to rule out other possible causes.

One criticism of the Rome diagnostic criteria process for IBS is that it has not taken root in the general medical community, particularly among primary care health providers. Studies have shown that primary care physicians do not, for the most part, diagnose IBS in accordance with these criteria and do not necessarily follow guidelines for the diagnostic workup [14–17]. Thus, while the Rome criteria have made a singular contribution to the conduct of clinical studies and/or population surveys, busy practitioners in the clinic are less likely to make routine use of symptom-based criteria for IBS [18]. This being the case, clinicians may often conduct more diagnostic tests than are recommended for the minimal diagnostic workup. For example, it has been reported that as many as 47% of IBS patients in the community undergo a colonoscopy or barium enema as part of their diagnostic workup, including patients for whom these procedures are not indicated in the guideline recommendations [19].

### Table 1. Case Patient Testing and Results

<table>
<thead>
<tr>
<th>Category</th>
<th>Test/Procedure</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood tests</td>
<td>Erythrocyte sedimentation rate</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Complete blood count</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Biochemistry profile</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Serology for celiac disease</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Thyroid-stimulating hormone</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>CEA</td>
<td>Normal</td>
</tr>
<tr>
<td></td>
<td>Serology for <em>Helicobacter pylori</em></td>
<td>Positive</td>
</tr>
<tr>
<td>Stool tests</td>
<td>Ova and parasites</td>
<td>Negative (multiple tests)</td>
</tr>
<tr>
<td></td>
<td>Culture</td>
<td>Negative (multiple tests)</td>
</tr>
<tr>
<td>Imaging</td>
<td>Abdominal ultrasound</td>
<td>Negative (&lt; 3)</td>
</tr>
<tr>
<td></td>
<td>Abdominal CT</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Barium enema</td>
<td>Negative</td>
</tr>
<tr>
<td></td>
<td>Upper GI series with small bowel follow through</td>
<td>Negative</td>
</tr>
<tr>
<td>Endoscopy</td>
<td>Upper endoscopy</td>
<td>Very mild antral gastritis</td>
</tr>
<tr>
<td></td>
<td>Colonoscopy with ileoscopy</td>
<td>Negative</td>
</tr>
</tbody>
</table>

CEA = carcinoembryonic antigen; CT = computed tomography; GI = gastrointestinal.

### Table 2. Rome II Diagnostic Criteria for IBS (in the Absence of Structural or Metabolic Abnormalities to Explain the Symptoms)

At least 12 weeks or more, which need not be consecutive, in the preceding 12 months of abdominal discomfort or pain that has 2 of 3 features:

1. Relieved with defecation; and/or
2. Onset associated with a change in frequency of stool; and/or
3. Onset associated with a change in form (appearance) of stool

Symptoms that cumulatively support the diagnosis of IBS:

- Abnormal stool frequency (> 3 bowel movements per day or < 3 per week)
- Abnormal stool form (lumpy/hard or loose/watery stool)
- Abnormal stool passage (straining, urgency, or feeling of incomplete evacuation)
- Passage of mucus
- Bloating or feeling of abdominal distention

IBS = irritable bowel syndrome.
**Does this patient meet the diagnostic criteria for IBS?**

The patient meets the Rome II diagnostic criteria for IBS in that she has had chronic abdominal pain and irregular bowel movements for more than 25% of the time over the past 12 months (and in her case, years). She also suffers from excess gas and abdominal bloating, supporting symptoms for the diagnosis. Finally, there are no red flags.

**Has the patient undergone a sufficient diagnostic evaluation?**

Considering the numerous tests that have been conducted, the patient has actually gone through a process similar to “diagnosis by exclusion,” with too many tests done. The tests and procedures that would have been sufficient to diagnose IBS in this case are physical examination, blood tests (complete blood count, biochemistry profile, and serology for celiac disease), stool test for ova and parasites (if there is a history of recent travel to an endemic region), and sigmoidoscopy (although this is not a consensus procedure in the case presented).

**What causes IBS?**

IBS is a complex, multifactorial disorder. Research on the pathophysiology of IBS has focused on the bidirectional signaling pathways and information processing centers between the gastrointestinal system and the central nervous system, known as the brain-gut axis [20–23]. The experience of abdominal pain and/or altered motility and bowel habits can derive from impaired activity in 1 or more of the stations along the brain-gut axis from the periphery (the intestinal lumen, the intestinal mucosa, the enteric nervous system) [24–26] by way of the spinal cord and through to the higher, integrative brain centers. Brain-gut activity is mediated by biochemical factors incorporating input from the neuroendocrine and neuroimmunologic systems [27]. Peripheral stressors and/or changes to the intestinal mucosa, for example, following acute gastroenteritis [28,29], other causes of transient mucosal inflammation, and/or prior abdominal or pelvic surgery [30,31], may affect afferent stimuli from the gut and their perception as IBS symptoms. A major factor in the experience of symptoms is abnormal central processing of peripheral afferent visceral signals, leading to a lowered threshold for pain (hypersensitivity) and increased selective attention to gut-related stimuli (hypervigilance) [32].

This abnormal sensitivity of the stress hardwiring of the central nervous system may be primed by genetic predisposition [33,34], early life experiences including intergenerational transmission of health-related behavior [35], a previous history of physical, sexual, or emotional abuse [36], and chronic stressors such as bereavement, traumatic separation, or unemployment [37]. It may be maintained and perpetuated by psychologic factors such as general anxiety, depression [38], panic disorder [39], somatization disorder [38], gastrointestinal symptom–specific anxiety [40], a maladaptive coping style [41,42], or poor social support [43].

These factors and events can be conceptualized in a model that includes predisposing, precipitating, and perpetuating factors for IBS (Table 4).

**Further History and Additional Diagnosis**

Over the past few years, the patient has developed new symptoms not directly related to the gastrointestinal tract. She complains of pain and exquisite tenderness in many joints and muscles. This has led to limited physical activity and further limitation of her social interactions. She has tried to take nonsteroidal anti-inflammatory drugs, but these have only exacerbated her abdominal pain. The patient is referred to a rheumatologist for suspected fibromyalgia syndrome (FMS), and the diagnosis is confirmed.
**What is FMS and how is it related to IBS?**

FMS was defined by the American College of Rheumatology in 1990 [44] as a chronic musculoskeletal syndrome characterized by diffuse pain and tender points with no evidence of synovitis or myositis and with a normal physical examination. The diagnostic criteria require pain, present for at least 3 months, that involves the upper and lower body, right and left sides, and the axial skeleton. Pain plus tenderness must be elicited by digital examination in at least 11 of 18 specific anatomic locations termed tender points. FMS affects approximately 2% of the population [45].

**Concomitant IBS and FMS**

Many FMS patients have concomitant IBS [46–53]. Estimates of the prevalence of IBS in patients with FMS range from 30% to 35% [46,51] to as high as 70% [52].

Sperber et al [10] conducted parallel studies on the prevalence of FMS among IBS patients compared with healthy controls (matched by age and gender) and the prevalence of IBS among female FMS patients. FMS was diagnosed in 31.6% of the IBS patients compared with 4.3% of controls. IBS was diagnosed in 32% of the women with FMS. There were significantly more tender points in IBS patients than controls. Patients with both IBS and FMS had significantly lower somatic thresholds than patients with IBS alone or controls.

Sperber et al [10] also assessed associations between the coexistence of IBS and FMS and clinical and health-related quality of life indices. In all variables assessed, patients with both IBS and FMS had more severe findings than patients with IBS only or controls. These variables included global feeling, sleep disturbances, relation of stress to symptoms, physician visits, concerns about illness, and psychologic distress. This was also true for the Sense of Coherence Index (a measure of coping ability) [54] and the Functional Bowel Disorder Severity Index [55]. Thus, the coexistence of another functional disorder in an IBS patient may confound findings relating to quality of life if comorbidity is not also assessed.

**Do IBS patients have other comorbid functional disorders?**

**IBS and Other Gastrointestinal Functional Disorders**

The overlap of lower and upper functional gastrointestinal disorders is well documented [4,56,57], suggesting the possibility that they represent different aspects of the same disorder [58]. It has been suggested that if abdominal pain, even in the upper abdomen, is associated with changed bowel habits or is relieved by a bowel movement, then the diagnosis is still IBS. In contrast, if the upper abdominal pain is unrelated to the bowel habit and is unrelieved by bowel movements, then distinct functional syndromes can be assumed to coexist in the same individual [59]. Indeed, studies employing factor analyses indicate that despite the overlap between these syndromes, they are actually distinct entities [60].

**Table 4. Predisposing, Precipitating, and Perpetuating Factors for Irritable Bowel Syndrome**

<table>
<thead>
<tr>
<th>Predisposing factors</th>
<th>Precipitating factors*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genetic predisposition</td>
<td>Acute and chronic stress (life events)</td>
</tr>
<tr>
<td>Early life experiences</td>
<td>History of abuse</td>
</tr>
<tr>
<td>Intergenerational transmission of illness behavior</td>
<td>Infection and inflammation</td>
</tr>
<tr>
<td>Gender</td>
<td>Bacterial flora and small bowel bacterial overgrowth</td>
</tr>
<tr>
<td>Perpetuating factors</td>
<td>Intestinal gas and motility</td>
</tr>
<tr>
<td>Psychologic comorbidity</td>
<td>*Some of these factors are recognized as associated with irritable bowel syndrome, but direct causality has not been proven.</td>
</tr>
<tr>
<td>Somatization disorder</td>
<td>Depression</td>
</tr>
<tr>
<td>Anxiety</td>
<td>Panic disorder</td>
</tr>
<tr>
<td>Poor social support</td>
<td>Maladaptive coping</td>
</tr>
</tbody>
</table>

*Some of these factors are recognized as associated with irritable bowel syndrome, but direct causality has not been proven.

**IBS and Nongastrointestinal Comorbid Functional Disorders**

Functional disorders have been reported in most body systems and many patients suffer from more than 1 disorder. Table 5 presents a list of functional disorders in various body systems and unexplained symptoms that are common in patients with functional disorders and often considered to be manifestations of somatization [38,61].

In a systematic review, Whitehead et al [62] found that 50% of IBS patients have at least 1 comorbid somatic symptom and that many IBS patients meet diagnostic criteria for other functional disorders. Significantly, patients with IBS and another functional disorder, compared with patients with IBS only, have more severe IBS symptoms, a higher
irritable bowel Syndrome

rate of psychopathology (eg, depression, anxiety, somatization), greater impairment of quality of life, and more illness-related work absenteeism.

Aaron et al [63] reported the results of a co-twin control study of 127 chronic fatigue syndrome (CFS) patients. Comorbid conditions such as FMS, IBS, temporomandibular joint syndrome, interstitial cystitis, chronic pelvic pain, tension headache, multiple chemical sensitivities, and other functional disorders were significantly more prevalent in the twin with CFS than in the nonfatigued twin.

The prevalence of CFS in the general population is reported to be 0.4% [64]. Up to 70% of FMS patients have CFS [65], and 35% to 70% of patients with CFS have FMS [65,66]. Studies of IBS among CFS patients have reported a prevalence ranging from 35% to 92% [63,66–69]. The prevalence of IBS among patients with CFS is reported to be 14% [67].

There are methodologic problems with many of these studies. There is inadequate uniformity among the studies as to diagnostic criteria used, sample size, and methods of patient selection. These limitations explain the large range in prevalence rates for comorbidity among the various functional disorders in the different studies and difficulties in comparing their results.

IBS and Psychologic/Psychiatric Comorbidity

Many studies have demonstrated an overlap between IBS and psychiatric disorders. The consensus is that a large percentage of IBS patients have psychiatric comorbidity [70]. The percentage is particularly high among patients seen in tertiary referral centers and lower in IBS patients seen and treated in the community setting [71].

An aspect of psychiatric comorbidity that appears to be of particular significance in the study of IBS and associated functional disorders is somatization disorder. North et al [38] reported a very high rate of nongastrointestinal functional disorders in IBS patients but significantly more among those with somatization disorder. They reported that many aspects of comorbidity and health care behaviors were more associated with the diagnosis of somatization disorder than with the diagnosis of IBS. In fact, somatization disorder was much more important than depression or anxiety, which are often considered as psychiatric associates of IBS. This may not be surprising given that somatization disorder is defined, in part, as the manifestation of multiple symptoms across different organ systems.

Whitehead et al have suggested that IBS patients with other comorbid functional disorders manifest a greater degree of somatization, which may serve as a link between these disorders and increased health care utilization, disability, and impaired quality of life [72]. They propose that the presence of multiple comorbid disorders is a marker for psychologic influences on etiology [62]. Vandvik et al [73] conducted a study aimed at confirming this hypothesis. They found that IBS patients with a greater number of comorbid symptoms had higher levels of psychiatric distress, health care seeking, and reduced quality of life compared with IBS patients with fewer comorbid symptoms. Thus, one potential explanation for the multiple comorbid symptoms and associated functional disorders manifested by the patients is the presence of somatization disorder. This link has therapeutic ramifications.

Additional History

The patient relates that her feeling of shame about her IBS and pain during intercourse and a worsening of her IBS symptoms following intercourse have limited attempts at intimate relationships with men. She has also noted a decrease in her sexual desire.

Table 5. Comorbid Functional Syndromes and Unexplained Somatic Symptoms

<table>
<thead>
<tr>
<th>Functional syndromes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia</td>
</tr>
<tr>
<td>Chronic fatigue syndrome</td>
</tr>
<tr>
<td>Migraine and tension headaches</td>
</tr>
<tr>
<td>Temporomandibular joint disorder</td>
</tr>
<tr>
<td>Posttraumatic stress disorder</td>
</tr>
<tr>
<td>Chronic pelvic pain</td>
</tr>
<tr>
<td>Interstitial cystitis and dysuria</td>
</tr>
<tr>
<td>Sexual-related disorders</td>
</tr>
<tr>
<td>Dyspareunia</td>
</tr>
<tr>
<td>Exacerbation of irritable bowel syndrome during menses</td>
</tr>
<tr>
<td>Decreased libido</td>
</tr>
<tr>
<td>Impaired (nonrestorative) sleep</td>
</tr>
<tr>
<td>Psychologic comorbidity</td>
</tr>
<tr>
<td>Somatization disorder</td>
</tr>
<tr>
<td>Depression</td>
</tr>
<tr>
<td>Anxiety</td>
</tr>
<tr>
<td>Panic disorder</td>
</tr>
<tr>
<td>Unexplained symptoms</td>
</tr>
<tr>
<td>Headache</td>
</tr>
<tr>
<td>Dizziness</td>
</tr>
<tr>
<td>Palpitations</td>
</tr>
<tr>
<td>Back pain</td>
</tr>
<tr>
<td>Shortness of breath</td>
</tr>
<tr>
<td>Muscle pain</td>
</tr>
<tr>
<td>Dysuria</td>
</tr>
<tr>
<td>Fatigue</td>
</tr>
<tr>
<td>Dyspareunia</td>
</tr>
<tr>
<td>Jaw pain</td>
</tr>
<tr>
<td>Dry mouth</td>
</tr>
<tr>
<td>Sleeping problems</td>
</tr>
</tbody>
</table>
Several studies have reported an increased prevalence of sexual dysfunction among IBS patients, including reduced sexual drive [74], increased dyspareunia [75,76], and more severe IBS symptoms following intercourse. IBS patients report a high rate of intercourse avoidance [77]. IBS symptoms worsen during menses [78]. The most common sexual dysfunction in IBS patients may be decreased libido. Fass et al [74] reported decreased sexual drive in 36.2% of male patients and 28.4% of female patients. Sexual dysfunction was positively correlated with gastrointestinal symptom severity but not with psychologic symptom severity.

Another related problem is the high rate of chronic pelvic pain in IBS patients. Many IBS patients undergo gynecologic workups, including pelvic laparoscopy for pelvic pain, without any pathologic findings. The prevalence of chronic pelvic pain in IBS was reported to be 14% [76]. The rate of IBS in women with chronic pelvic pain is even higher, ranging from 29% to 79% [76–79]. If the index of suspicion for IBS were higher among gynecologists seeing women referred for evaluation of chronic pelvic pain, some of these tests and procedures could have been avoided.

Studies on patients with IBS have demonstrated a higher rate of gynecologic operations, such as hysterectomies [30–80,81], than in the general population. This may be related to the health care utilization patterns of these patients and their chronic suffering and complaints [82]. The presence of IBS also may have a deleterious effect on the outcome of surgery [83], although some patients have at least partial alleviation of their symptoms as a result of surgery [81].

### What common features do the chronic functional disorders share?

The various functional disorders have many important characteristics in common, including epidemiology (female predominance), diagnosis (symptom-based), pathophysiology (hypersensitivity, impaired central processing of afferent sensory information, role of serotonin), psychologic distress and somatization, the role of stress and life events, the central role of the patient-physician relationship in therapy, and common therapeutic modalities (a more complete list appears in Table 6).

However, there are also differences between these functional entities. In particular, FMS is a disorder of somatic hypersensitivity, while IBS is a disorder of visceral hypersensitivity. Studies of visceral and somatic sensitivity in IBS and FMS patients have yielded contrasting results. One study reported that rectal visceral afferent hyperalgesia might be similar in patients with IBS and FMS and thus nonspecific for IBS [84]. Some studies have shown IBS patients to have increased thresholds for somatic stimulation [85]. However, Chang et al [32] used mechanical stimulation to test for somatic sensitivity and reported that female IBS patients with comorbid FMS have increased sensitivity to somatic stimuli, while those with IBS only show a blunted response. The results of the study by Sperber et al [10] also indicated that although patients with both IBS and FMS have lowered thresholds for somatic stimulation than patients with IBS only, the latter had, in turn, lower thresholds than healthy controls. Thus, a consistent result appears to be that the subset of IBS patients with concomitant FMS suffers from somatic hypersensitivity.

Chang et al [86] took these findings a step further in a study of 10 female patients with IBS only and 10 with both IBS and FMS. All participants gave subjective ratings of painful visceral and somatic stimuli while positron emission tomographic imaging was used to assess their brain response to these stimuli. IBS-only patients rated the visceral stimulus as more unpleasant than the somatic stimulus.

### Table 6. Characteristics Shared by IBS, FMS, and Other Comorbid Functional Syndromes

<table>
<thead>
<tr>
<th>Preponderance of female patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence of specific objective diagnostic laboratory test</td>
</tr>
<tr>
<td>Symptom-based diagnostic criteria</td>
</tr>
<tr>
<td>Fluctuating clinical course</td>
</tr>
<tr>
<td>Association with psychosocial variables (early life experiences, abuse history, poor social support, maladaptive coping skills)</td>
</tr>
<tr>
<td>Modulating effect of stress on symptom experience</td>
</tr>
<tr>
<td>Associated psychologic comorbidity: somatization, depression, anxiety, and panic disorder</td>
</tr>
<tr>
<td>Impaired central processing of afferent sensory information (somatic and/or visceral)</td>
</tr>
<tr>
<td>Reduced threshold for discomfort and pain</td>
</tr>
<tr>
<td>Role of serotonin</td>
</tr>
<tr>
<td>Possibility of common associated gene polymorphisms</td>
</tr>
<tr>
<td>Impaired quality of life</td>
</tr>
<tr>
<td>Increased health care utilization</td>
</tr>
<tr>
<td>Increased absenteeism from work</td>
</tr>
<tr>
<td>Nonrestorative sleep</td>
</tr>
<tr>
<td>Physicians find patients “difficult”</td>
</tr>
<tr>
<td>Central role of the doctor-patient relationship in treatment</td>
</tr>
<tr>
<td>Similar therapeutic modalities (antidepressant medications, cognitive-behavioral therapy, hypnosis, relaxation, biofeedback)</td>
</tr>
</tbody>
</table>

FMS = fibromyalgia syndrome; IBS = irritable bowel syndrome.
while patients with both syndromes rated both types of stimulus as equally unpleasant. Intriguingly, IBS-only patients had greater activation of the relevant pain-modulating brain region (the ACC) following visceral stimulation than did those with both syndromes, while the latter had greater activation of this region in response to somatic stimulation. The authors state that visceral and somatic afferent input may overlap because the same area was activated in response to both types of stimulation. However, the 2 groups appear to have differential activation of the same ACC region in that the stimulus representing their primary type of chronic pain activated the region to a greater extent. They conclude that this differential response may indicate a difference in the way patients focus attention on specific afferent input from visceral and somatic sources. In other words, the varying hypersensitivity (somatic versus visceral) may stem from differences in central processing of the afferent input rather than in differences in the peripheral threshold for pain.

**One Syndrome, or Many?**

In the middle of the 19th century, neurologist George Miller Beard published a paper on a syndrome that he termed “neurasthenia” [87], also known as Beard’s disease. He used the term to describe individuals with unexplained abnormal, chronic fatigue, and lassitude (nervous exhaustion). He reported that these patients had many additional signs and symptoms, including insomnia, back pain, nervousness, anxiety, depression, headache, difficulty in concentrating, reduced sexual impulse, abdominal pain, bloating and excess gas, diarrhea, and lack of appetite. Although he described patients of both sexes, he reported a female predominance.

Inasmuch as the functional disorders have similarities in terms of patient characteristics, impact of illness on quality of life, psychologic comorbidity, and treatment, it has been suggested that they may represent a group of illnesses sharing a common pathogenesis [47,52,88]. These syndromes are so similar in many respects that some authorities have suggested that their separation into separate entities is artificial [89], a result of the division of modern medicine into medical subspecialties.

Others have suggested that the disorders may be related through their association with depression and have suggested classifying them as a single entity called the “affective spectrum disorder” [47,90]. However, Henningsen et al [91] performed a meta-analysis on the association between medically unexplained physical symptoms, anxiety, and depression and concluded that while IBS, FMS, and CFS are associated with anxiety and depression, they are not dependent on these psychologic dimensions and cannot be classified as “common mental disorders.” Still, as discussed above, somatization disorder is a potentially important link between the various functional disorders.

The jury is still out on this intriguing issue. The case patient is an example of a patient whose primary manifestations are gastrointestinal (upper and lower) but who has complaints related to other systems. Did she first consult with a gastroenterologist because her abdominal symptoms were worse than other symptoms, or did they become primary because she was by chance seen first by a gastroenterologist? Hopefully, future research will shed more light on these questions.

- **How does the doctor-patient relationship impact treatment of IBS?**

Success in the treatment of IBS patients depends to a great extent on the following factors: the patient’s expectations from therapy, formulation of the therapeutic goals, readiness on the part of the patient to enter into a therapeutic partnership [92], the physician’s skill in fostering a therapeutic relationship, the availability of treatment options, and continuity of care.

**Expectations from Therapy**

If the patient’s expectations from care are not realistic, there is not much chance that the treatment will succeed. Many, if not most, patients come expecting to be cured. One of the physician’s first tasks is to establish conditions in which the patient’s expectations are realistic and the results are not disappointing. To this end, in a first meeting with a new patient the physician should try to elicit 3 essential pieces of information:

1. What does the patient think they have?
2. What are the patient's concerns?
3. What does the patient expect from the doctor or from the treatment?

When these 3 points are clarified successfully and an understanding is reached as to the patient’s expectations, the way is clear to a potentially successful treatment program.

**The Goals of Therapy**

As in any chronic disorder, the goals of therapy are to bring the disease under control. In the case of IBS and other functional disorders, this is best accomplished by education and reassurance, alleviation of symptoms (reduction of disease severity), and improved quality of life.

**The Therapeutic Partnership**

Patients are conditioned to adopt a passive role in their interactions with physicians, and physicians are often
comfortable with this behavior pattern. In disorders like IBS, a therapeutic partnership is more likely to accomplish the desired goals of therapy. The physician must learn to listen carefully and with empathy, to acknowledge the reality of the patients’ symptoms, and to identify potential precipitating and perpetuating factors, in particular psychosocial influences. This approach sets the stage for education and reassurance on the one hand and the presentation of treatment options from which the patient can choose the treatment modality most suited to them.

Continuity of Care

Finally, since IBS is a chronic disorder, the physician and the patient have to be committed to an ongoing therapeutic relationship to guarantee continuity of care and to increase the chances of achieving the agreed-upon goals of therapy.

Treatment Plan

The patient is presented with several treatment options, and the rationale for each is carefully explained to her. She chooses to try a tricyclic antidepressant [93,94]. At the doctor’s recommendation, she is considering combining therapy with cognitive-behavioral therapy or hypnotherapy.

• How effective is nonpharmacologic therapy in treating IBS?

Nonpharmacologic (psychologic) therapy has been shown to be effective in the treatment of IBS patients. These treatment modalities may be particularly suited to patients with multiple unexplained symptoms and comorbid functional disorders. Hypnosis [41,95], cognitive-behavioral therapy [41,96], and psychodynamic therapy [97] are effective in IBS and the first 2 have been shown to be effective in other functional disorders as well. Availability is an issue since therapists trained in these modalities are not at hand in many centers. Gut-centered hypnotherapy leads to beneficial physiologic changes as well as improved cognitions [98–101]. Cognitive-behavioral therapy treats maladaptive cognitions and behaviors associated with functional disorders and somatization [95]. Hypnotherapy in particular has been shown to have positive long-term effects in IBS [102].

Case Conclusion

The patient is seen again by the gastroenterologist 2 months later and reports an improvement in her overall feeling of well-being. There is a reduction in her IBS and FMS symptoms, although they are still present. The major change that she notes at this point is in her ability to control the symptoms and cope with them so that they have a less deleterious effect on her quality of life. The patient and physician decide together on a schedule of continued therapy and follow-up.

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References

IRRITABLE BOWEL SYNDROME


49. Romano TJ. Coexistence of irritable bowel syndrome and...
CME EVALUATION: The Irritable Bowel Syndrome and Its Association with Unexplained Medical Symptoms and Other Functional Disorders

DIRECTIONS: Each of the questions below is followed by 4 possible answers. Select the ONE lettered answer that is BEST in each case and circle the corresponding letter on the answer sheet.

1. A 25-year-old woman is referred for evaluation of abdominal pain and diarrhea. She has had similar symptoms on and off for the past 7 years. The pain is relieved following bowel movements. There is no bleeding or weight loss. Laboratory tests are normal. On physical examination, there is mild tenderness in the left lower quadrant. Which of the following statements regarding additional workup in this case is TRUE?
   (A) Any patient with abdominal pain and irregular bowel movements should have a colonoscopy to the cecum
   (B) Abdominal ultrasound is likely to provide an explanation for the pain and tenderness
   (C) At age 25, in the absence of “red flags,” colonoscopy to the cecum is not indicated
   (D) Rare cases of diarrhea such as neuroendocrine tumors must be ruled out

2. A 30-year-old man with abdominal pain and constipation has undergone a comprehensive diagnostic workup by his family physician. The results of the tests are negative and the patient is diagnosed as suffering from irritable bowel syndrome (IBS). Which of the following statements concerning treatment for IBS is TRUE?
   (A) The first physician-patient encounter has no special therapeutic significance
   (B) IBS can be cured if the appropriate treatment is offered to the patient
   (C) The effectiveness of cognitive-behavioral therapy has been disproved in clinical trials
   (D) Hypnosis has been shown in clinical trials to be effective in IBS

3. Visceral hypersensitivity is
   (A) A phenomenon that is associated with brain-gut dysregulation
   (B) A theory that supports the psychologic etiology of IBS
   (C) The missing link that connects highly sensitive personality types to IBS
   (D) A pathognomonic marker for IBS

4. Which of the following statements concerning IBS and fibromyalgia is TRUE?
   (A) Both may be characterized as a state of hypervigilance to peripheral pain stimuli (visceral or somatic)
   (B) Both are characterized by male predominance
   (C) Neither takes a significant toll in terms of work absenteeism and economic burden on society
   (D) No good epidemiologic surveys of these disorders have been conducted to date

5. Which of the following statements about patients with IBS and another functional disorder as compared with those with IBS only is TRUE?
   (A) They have less sleep impairment
   (B) They are more likely to suffer from a form of somatization disorder
   (C) Their quality of life is better
   (D) They are less likely to be chronic health care seekers
EVALUATION FORM: The Irritable Bowel Syndrome and Its Association with Unexplained Medical Symptoms and Other Functional Disorders

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   _ Very clear   _ Somewhat clear   _ Not at all clear

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