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Is the Association of IBS with Fibromyalgia and Other Non-gastrointestinal Functional Disorders Important and Why?

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"Unexplained" Symptoms and "Functional" Disorders

Patients usually go to doctors with symptoms, not with the names of diseases or conditions (diagnoses). The doctor's task is to make sense of the patient's complaints within the framework of medical diagnoses and recognized diseases. This is accomplished by a process of "history taking" (interview), physical examination, and diagnostic testing. The process is completed when the symptoms are resolved into the diagnosis of a specific disease, which is then treated with varying degrees of success.

Unfortunately, this idealization of the diagnostic process is often not realized in actual clinical practice. A significant percentage of patients who consult with doctors in primary care or even specialist clinics have symptoms that remain unexplained after the diagnostic process is exhausted. This is the case because modern medicine focuses on structural (often called "organic") diseases, that is diseases that have a basis in the structure or anatomy of the body systems rather than functional disorders that have a basis in how the systems work. Examples of structural abnormalities in the gastrointestinal tract are ulcer, inflammation, infection, and cancer. Examples of functional abnormalities are disordered motility (where nerves or muscles in any portion of the digestive tract do not function with their normal strength and coordination) and hypersensitivity to pain (where persons sense or perceive pain or discomfort more easily, or at lower levels, than is considered normal). Most diagnostic tests (laboratory tests, radiology, endoscopy, and isotope scans) are designed to identify structural problems, but not disorders of function.

There are many examples of functional disorders in the gastrointestinal (GI) tract. The best studied and most common of these are irritable bowel syndrome (IBS), and functional dyspepsia. As most patients with these disorders are aware, the results of diagnostic tests appear normal and the patient is often told that "nothing is wrong with them" or that "it's all in their head." In effect, the symptoms remain "unexplained," not because they cannot be explained but because some doctors do not know how to explain them to patients or feel that they do not have sufficient time to do so.

Functional Disorders in Various Body Systems

In the mid-19th century George Miller Beard, an American neurologist coined the term "neurasthenia" for a disorder that has also been known at times as Beard's disease. He described patients with unexplained chronic fatigue and lassitude, which he referred to as 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 that neurasthenia had a female predominance.

This was an early description of a generalized functional disorder with associated psychological elements and evidence of somatization disorder (SD). These associations have gained recognition over the years for their potential contribution to the understanding of IBS. Somatization disorder is a chronic condition with multiple physical complaints or symptoms, and no recognizable physical abnormality. It is much more prevalent among women than men and usually begins at a young age (up to 30 years of age). Stress often worsens symptoms.

What is stress?
Stress is a subjective response to stimuli that involves the mind and body. In contrast to the common interpretation of the term "stress" as a psychological phenomenon, it should be understood as a biological response. The stress response can alter the way the brain and the body interact. For example, stress can increase GI symptoms by changing how the brain controls unwanted and painful sensation.

Functional disorders are prevalent in most body systems. Well-recognized examples besides IBS are fibromyalgia (FMS), the chronic fatigue syndrome (CFS), chronic pelvic pain (CPP), and temporomandibular joint pain (TMJ). Table 1 presents a partial list of non-gastrointestinal functional disorders and Table 2 presents a partial list of common unexplained symptoms.

Table 1.
Non-gastrointestinal Functional Disorders

- Fibromyalgia (FMS)
- Chronic fatigue syndrome (CFS)
- Migraine and tension headaches
- Temporomandibular joint disorder (TMJ)
- Post-traumatic stress disorder (PTSD)
- Chronic pelvic pain (CPP)
- Interstitial cystitis and dysuria (pain on urination)
- Non-cardiac chest pain (NCCP)†
- Multiple chemical sensitivities

*The distinction between disorders and unexplained symptoms (see Table 2) is not always clear-cut.

†In some patients NCCP has a gastrointestinal basis.

The Coexistence of IBS with FMS and Other Functional Disorders

Fibromyalgia was defined by the American College of Rheumatology in 1990 as a chronic syndrome of the musculoskeletal system characterized by diffuse pain and tender points with no evidence of inflammation and with a normal physical examination.

Table 2.
Common unexplained symptoms*

- Headache
- Dizziness
- Palpitations
- Back pain
- Shortness of breath
- Muscle pain
- Dysuria (pain on urination)
- Fatigue
- Jaw pain
- Dry mouth
- Sleeping problems
- Sexual-related disorders
- Dyspareunia (pain at intercourse)
- Exacerbation of IBS during menses
- Decreased libido (sexual drive)
- Impaired (non-restorative) sleep
- Somatization disorder
- Psychological co-occurrence
- Depression
- Anxiety
- Panic disorder

*The distinction between disorders (see Table 1) and unexplained symptoms is not always clear-cut.

FMS. Estimates of the prevalence of IBS in FMS patients range from 30% to as high as 70%. Studies of FMS among IBS patients have yielded similar results.

A study was conducted of 127 chronic fatigue patients who had a non-fatigued twin. Coexisting conditions such as fibromyalgia, IBS, TMJ, interstitial cystitis, chronic pelvic pain, tension headache, multiple chemical sensitivities and other functional disorders were significantly more prevalent in the twin with chronic fatigue syndrome than in the control twin.

Up to 70% of fibromyalgia (FMS) patients have chronic fatigue syndrome (CFS) and 35–70% of patients with CFS have FMS. Fifty-eight to 92% of CFS patients have IBS.

In a study conducted in Israel, Sperber et al. showed that 31.6% of IBS patients met the diagnostic criteria for fibromyalgia, and 32% of women with fibromyalgia also suffered from IBS.

The Consequences of Coexisting Functional Syndromes

In the Israeli study associations between the co-existence of IBS and fibromyalgia and clinical and health-related quality of life variables were also assessed. In all variables investigated patients with both IBS and fibromyalgia had more severe findings than patients with IBS only or healthy controls. These variables included overall feeling of well-being, sleep disturbances, relation of stress to symptoms, number of doctor visits, concerns about illness, and psychological distress. This was also true for the Sense of Coherence Index (a measure of ability to manage circumstances) and the Functional Bowel Disorder Severity Index, a measure of IBS severity.

In a systematic review Whitehead et al. found that 50% of IBS patients have at least one coexisting somatic symptom and many IBS patients meet diagnostic criteria for other functional disorders. Significantly, patients with IBS and another functional disorder, in comparison with patients with IBS only, have more severe IBS symptoms, a higher rate of distress such as depression, anxiety and somatization, greater impairment of quality of life, and more illness-related work absenteeism.

Characteristics that are Common to the Various Functional Syndromes

The various functional disorders have many characteristics in common. These include:

1. The absence of specific diagnostic laboratory tests – There is no single or combination of objective test results that yields the diagnosis.
2. Symptom-based diagnostic criteria – Diagnosis is based on the patient's subjective report.
3. A heavy utilization of health care services – IBS is a leading cause of health care expenditure among the GI diseases even though it rarely entails hospitalization and is not life-threatening.
4. A preponderance of female patients – Women represent 70% or more of the patient population in most studies.
5. Stress modulates the symptom experience – Symptoms are usually made worse at times of chronic stress.
6. Particularly among patients referred to specialist centers, there are often associated psychosocial difficulties – These include negative early life experiences, social support, and skills to manage difficult circumstances as well as psychological disorders such as anxiety, depression, panic disorders, and somatization.
7. Quality of life is often impaired – Patients report serious impairment of the their daily activity, social life, and employment.
8. Quality of sleep is often impaired – Patients report worse quality of sleep and objective sleep studies demonstrate that these patients have non-restorative sleep and next-day fatigue.
9. A common mechanism of disease may be an impaired processing by the brain of sensory information (for example, pain) from the affected organs (the gut in IBS, the musculoskeletal system in fibromyalgia) – Neuroimaging studies (functional MRI, PET scans) indicate that brain areas in these patients may fail to inhibit, or may even facilitate, the awareness of pain stimuli originating in the relevant body systems.
10. The doctor-patient partnership plays a central role in treatment (see below).
11. Similar therapeutic approaches (antidepressant medications, cognitive behavioral therapy, hypnosis, biofeedback) are applicable and effective in the various functional disorders (see below).

Principles of Treatment

The doctor-patient relationship – A therapeutic doctor-patient partnership is critical to successful treatment of IBS and other functional disorders. Treatment success in these disorders is related to the following:

1. The physician's skill in fostering a therapeutic relationship – The physician has to learn to listen empathetically and to acknowledge the reality of the patients' symptoms. This can facilitate education and reassurance on the one hand, and the presentation and weighing of treatment options on the other.
2. The patient's expectations from therapy – Unrealistic expectations can lead to treatment failure. Many patients expect to be cured, an outcome that is unrealistic in chronic disorders such as these. If the patient's expectations are realistic there is less danger that the results will be disappointing.
3. Formulation of the therapeutic goals – As in any chronic disorder the goals of therapy are to bring the disease under control rather than to cure it. This can be accomplished by education and reassurance,

alleviation of symptoms (reduction of disease severity), and the ensuing improvement in quality of life.

4. Readiness on the part of the patient to enter into a therapeutic partnership – Patients often adopt a passive role with physicians, and physicians are often comfortable with this type of patient behavior. However, a therapeutic partnership is more likely to accomplish the desired goals of therapy.
5. Continuity of care – Since these are chronic disorders, physicians and patients need continuity of care to increase the chances of achieving the agreed-upon goals of therapy.

Treatment Options

Non-pharmacologic therapy – Therapy without the use of drugs is often effective in the treatment of functional disorders. It may be particularly suited to patients with multiple unexplained symptoms and coexisting functional disorders. Hypnosis, cognitive-behavioral therapy, and psychodynamic-interpersonal therapy are effective in IBS and the first two are effective in other functional disorders. Gut-centered hypnotherapy leads to beneficial physiological changes as well as improved cognitions. It has been shown to have positive long term effects in IBS. Cognitive-behavioral therapy treats mal-adaptive cognitions and behaviors associated with functional disorders and somatization. Availability may be an issue since therapists trained in these modalities are not at hand in many centers.

Pharmacologic therapy – Pharmacological (drug) therapy can be directed at specific symptoms or at the underlying mechanism of disease. The chemical mediator serotonin is involved in the transmission of pain stimuli and their processing in the central nervous system in both IBS and fibromyalgia.

For this reason anti-depressant drugs, which affect the action of serotonin, are used to treat patients in both syndromes. These medications can also improve symptoms of depression, but that is not the prime reason they are prescribed. By their effect on serotonin they help reduce hypersensitivity to pain (whether it stems from the gut or the musculoskeletal system) by raising pain thresholds.

Conclusion

Many patients suffer from more than one functional disorder. Approximately one-third of IBS patients also have fibromyalgia. The coexistence of IBS with another functional disorder often results in a greater impairment in health-related quality of life than IBS alone. There are many features that are common to IBS and other functional disorders and the approach to treatment is similar with a strong emphasis on a therapeutic doctor-patient partnership. A lack of recognition of co-existing conditions by doctors and patients could have a deleterious effect on treatment outcomes while an awareness of them could have a beneficial one.

IFFGD Suggested Reading

Olden K. *Antidepressants and Functional Gastrointestinal Disorders.* IFFGD. Fact Sheet No. 161.

Palsson O. *Hypnosis Treatment of Irritable Bowel Syndrome*. IFFGD. Fact Sheet No. 171.

Whorwell P. *Hypnotherapy for Functional Gastrointestinal Disorders*. IFFGD. Fact Sheet No. 186.