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Irritable Bowel Syndrome (IBS), Heartburn, Dyspepsia: What's the Difference?

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Irritable Bowel Syndrome (IBS), Heartburn, Dyspepsia: What's the Difference?

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At A Glance

- IBS is characterized by discomfort or pain anywhere in the abdomen that is relieved by defecation or occurs with a change to looser or firmer stools.
- Dyspepsia is characterized by discomfort or pain, but only in the upper abdomen, and is sometimes associated with eating, but not defecation.
- Heartburn is characterized by discomfort or pain, described as burning, in the lower chest behind the breastbone and typically occurs after certain meals or when bending or lying.

One of the most frustrating characteristics of a functional gastrointestinal (GI) disorder is the absence of physical features that mark the illness as a disease. Crohn's disease produces an inflammatory thickening of the intestinal wall with complications such as a fistula, abscess, or obstruction. These are identifiable by x-ray. Doctors can see a peptic ulcer in the stomach or duodenum using a thin, flexible, fiberoptic instrument (gastroscope). Inflammation of the esophagus (esophagitis) can also be seen by gastroscope and there may be complicating narrowing (stricture) or bleeding. Functional disorders have no such visible identifying abnormality. Their diagnosis depends almost entirely upon analysis of their symptoms.

The anatomical diseases Crohn's, peptic ulcer, and esophagitis have functional counterparts with some similar symptoms; irritable bowel syndrome (IBS), dyspepsia, and functional heartburn, but these cannot be identified by x-ray or gastroscopy. Thus, for the diagnosis of these functional disorders doctors must rely entirely upon the patient's description of his or her symptoms. To be sure, if there is any reason to suspect anatomic abnormality (pathology) some tests may be required, but a negative result is characteristic of a functional disorder. Thoughtful interpretation of a careful medical history usually should permit a doctor to recognize a functional GI disorder's characteristic symptoms and determine the risk of an associated structural disorder.

This article briefly describes the characteristics of these three functional GI disorders – IBS, dyspepsia, and functional heartburn – and how they may be distinguished from one another. The symptoms are chronic, often beginning in youth and occurring periodically over a lifetime. Each disorder is common in the population, so more than one may occur in some individuals. Indeed, if 15% of the population has a functional disorder such as IBS, it is likely that a similar proportion of those with a structural disease such as Crohn's will have the IBS as well. Nevertheless, the management of each of the aforementioned disorders is unique, and each requires precise identification to avoid mistaken therapy, and to institute appropriate treatment.

Irritable Bowel Syndrome

IBS is the most common functional GI disorder. It is often considered the prototype, since it is the most studied, and is the principle target for most of the new drugs for these disorders. However, the cause of IBS remains unknown – although there are many suggestions. Fortunately, physicians have learned to identify it by its associated pain and bowel habit.

The Rome III criteria for IBS are shown in Table 1. They capture the essence of the disorder – pain or discomfort anywhere in the abdomen that is relieved by a bowel movement, and/or associated with a change in the consistency or frequency of bowel movements. Like other functional disorders, the symptoms are chronic, so the criteria specify that the symptoms have been present in the last three months and were noticed at least six months ago. No underlying structural abnormality explains the symptoms. Abnormal blood tests, an x-ray abnormality, or a lesion discovered during an endoscopy (sigmoidoscopy or colonoscopy) each will require investigation in its own right. Table 2 lists warning signs that suggest another cause for the symptoms or the coexistence of a structural disorder.

For most IBS patients, pain is the dominant symptom. Many also find the diarrhea or constipation troublesome. Sometimes the bowel symptoms are severe enough to hamper work, school, or social life. Fecal soiling may be an often unspoken complaint.

Table 1
Irritable Bowel Syndrome
Diagnostic criteria*

Recurrent abdominal pain or discomfort** at least three days per month in the last six months associated with **two or more** of the following:

1. Improvement with defecation
2. Onset associated with a change in frequency of stool
3. Onset associated with a change in form (appearance) of stool

* Criteria fulfilled for the last three months with symptom onset at least six months prior to diagnosis

** "Discomfort" means an uncomfortable sensation not described as pain.

Table 2
Warning Symptoms

- Blood in the stool or black stools
- Vomiting blood
- Low blood count (anemia)
- Fever (more than 38 degrees Celsius, 99 degrees Fahrenheit)
- More than 5 kilograms (10 pounds) weight loss
- Recent major change in frequency or consistency of bowel movements
- Parent or sibling with cancer of esophagus, stomach or colon
- Ulcerative colitis, Crohn's disease or celiac disease
- Recent, persistent hoarseness
- Recent persistent or worsening throat pain
- Chest pain related to exertion or present with heart disease
- Recent onset of difficulty swallowing

Dyspepsia

Unlike IBS, the pain or discomfort of dyspepsia is located only in the upper-center abdominal area just below the breastbone (epigastrium), and is not associated with any disturbance in bowel function. Sometimes it occurs during or after meals, but often it seems to have no triggering event. Peptic ulcer is less common now, but in the latter half of the twentieth century, it was the most important non-malignant chronic gastrointestinal disease. It's most frequent manifestation is dyspepsia. Thus, failure to find a peptic ulcer in a person with dyspepsia led to the now seldom-used term "non-ulcer" dyspepsia. The reason this phrase has fallen out of favor is not only the decline in peptic ulcer incidence, but also the realization that dyspepsia may have several causes.

Unlike abdominal emergencies such as a gallbladder attack (biliary colic) or inflammation of the pancreas (pancreatitis), functional dyspepsia is a chronic, recurring, yet benign disease with no defining cause. Some physicians believe that most cases of functional dyspepsia are caused by abnormal motility of the upper gastrointestinal tract. Hence many tests are employed to measure upper gut movements and gastric emptying.

The Rome III criteria for functional dyspepsia and its commonly accepted subtypes (postprandial distress syndrome and epigastric pain syndrome) are shown in Table 3. For the purpose of this discussion, only the criteria for functional dyspepsia itself are important. Like IBS, the criteria specify that the symptoms are chronic with no evidence of structural disease.

Table 3
Functional Dyspepsia

Diagnostic criteria* must include

1. One or more of the following:
   a. Bothersome postprandial fullness
   b. Early satiation
   c. Epigastric pain
   d. Epigastric burning

AND

2. No evidence of structural disease (including at upper endoscopy) that is likely to explain the symptoms

Postprandial Distress Syndrome

Diagnostic criteria* must include **one or both** of the following:

1. Bothersome postprandial fullness, occurring after ordinary-sized meals, at least several times per week
2. Early satiation that prevents finishing a regular meal, at least several times per week

Supportive criteria

1. Upper abdominal bloating or postprandial nausea or excessive belching can be present.
2. Epigastric pain syndrome may coexist.

Epigastric Pain Syndrome

Diagnostic criteria* must include **all** of the following:

1. Pain or burning localized to the epigastrium of at least moderate severity, at least once per week
2. Pain is intermittent
3. Pain is not generalized or localized to other abdominal or chest regions
4. Pain is not relieved by defecation or passage of flatus
5. Symptoms do not fulfill criteria for gallbladder and sphincter of Oddi disorders

Supportive criteria

1. The pain may be of a burning quality, but without a retrosternal component.
2. The pain is commonly induced or relieved by ingestion of a meal, but may occur while fasting.
3. Postprandial distress syndrome may coexist.

*Criteria fulfilled for the last three months with symptom onset at least six months prior to diagnosis

Functional Heartburn

Heartburn is a burning sensation behind the breastbone. Characteristically it is brought on or worsened by excessive meals, especially those containing fat, and by bending over or lying flat, especially with a full stomach. Most heartburn is due to reflux of acid from the stomach into the lower esophagus (Figure 1). Since a meal stimulates the stomach to produce hydrochloric acid, the refluxing material is acidic and literally burns the lower esophagus. In some cases, such acid exposure leads to an inflammation known as esophagitis, which if untreated can cause bleeding or a stricture (narrowing) of the esophagus. However, most individuals with reflux have no physical abnormality of the esophagus. Since acid causes the heartburn, it is relieved by the ingestion of one of a class of antacid drugs called the proton pump inhibitors – omeprazole (Prilosec), lansoprazole (Prevacid), rabeprazole (Aciphex), pantoprazole (Protonix), and esomeprazole (Nexium), This effect is so dramatic that heartburn is considered confirmed if the burning pain is promptly relieved by these drugs. There remain a small number of cases where the burning pain is typical of heartburn, but acid reflux cannot be demonstrated, and

the protein pump inhibitors offer no relief. Such patients are said to have functional heartburn (Table 4).

Thus, heartburn usually has a cause related to an alteration in function sometimes accompanied by an anatomical abnormality (esophagitis). It is important to recognize heartburn in order to exclude complicating esophagitis. In most cases it responds well to dietary and pharmacological treatment. When such treatment fails, the heartburn is deemed to be "functional."

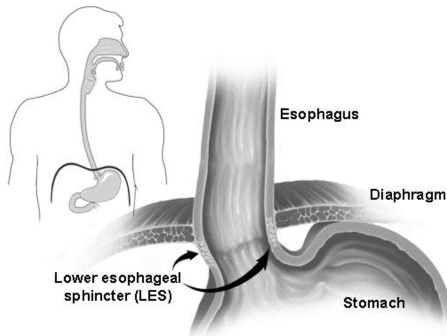

Figure 1
The esophagus: The lower esophageal sphincter is normally contracted to prevent acid from refluxing into the esophagus where it may cause heartburn and sometimes damage the lower esophagus. The sphincter relaxes after a swallow. (From W. G. Thompson, *Understanding the Irritable Gut*)

Table 4
Functional Heartburn

Diagnostic criteria* must include **all** of the following:

1. Burning discomfort or pain behind the breastbone (retrosternal)
2. Absence of evidence that gastroesophageal acid reflux is the cause of the symptom
3. Absence of histopathology-based esophageal motility disorders

* Criteria fulfilled for the last three months with symptom onset at least six months prior to diagnosis

Making the Diagnosis

After taking a history and performing a physical examination, a doctor is usually in a position to make a conditional diagnosis of a gastrointestinal disorder. However, physicians must consider other possible explanations for the patient's symptoms. For example a diagnosis of IBS implies that there is no evidence of other gut diseases such as Crohn's disease, colitis, or colon cancer. In people with dyspepsia, peptic ulcer and gastric cancer must be considered. Heartburn may feel to some like chest pain, so other causes of such pain, particularly heart disease, must be considered. In most cases, such determinations are usually possible from the history and examination – in some a test or two may be necessary.

The discrimination of IBS, dyspepsia, and heartburn from one another is clarified by a careful medical history with attention to the pain or discomfort and its association with other events or symptoms. IBS is characterized by abdominal discomfort or pain that is relieved by defecation or occurs with a change to looser or firmer stools. Dyspepsia is also characterized by abdominal discomfort or pain, but only in the upper abdomen, and is sometimes associated with eating, but not defecation. Heartburn is not in the abdomen at all, but in the lower chest behind the breastbone. It is described as burning, and typically occurs after certain meals or when bending or lying. Most heartburn is promptly relieved by a drug that suppresses the stomach's production of acid. If unresponsive to such drugs the heartburn is said to be functional. All of these conditions are chronic, and if alarm symptoms are present or a test is positive, a coexisting structural gut disease or injury must be ruled out.

Conclusion

IBS, dyspepsia, and heartburn are identified by careful symptom analysis using the Rome III criteria, and a search for alarm symptoms that might indicate structural disease. The distinction of these three disorders from one another depends upon location of the pain or discomfort, the presence or absence of a relationship to defecation, and the response to acid-suppressing drugs.

Additional Reading

(1) Galmiche JP, Clouse RE, Balint JA, Cook IJ, Kahrilas PJ, Patterson WG et al. "The Functional Esophageal Disorders." In: Drossman DA, Corazziari E, Delvaux M, Spiller RC, Talley NJ, Thompson WG et al., editors. *The Functional Gastrointestinal Disorders*. McLean VA: Degnon Associates, 2006: 369-417.

(2) Thompson WG. *Understanding the Irritable Gut.* McLean, VA: Degnon Associates, 2008.

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