Functional Abdominal Pain and Related Syndromes

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KEYWORDS

• Functional abdominal pain • Irritable bowel syndrome
• Functional gastrointestinal disorders • Diagnosis • Treatment • Counseling
• Management

KEY POINTS

- Medical and mental health providers commonly encounter functional gastrointestinal disorders (FGIDs). Functional abdominal pain and irritable bowel syndrome are 2 particularly common and important FGIDs.
- Accurate diagnosis of FGIDs is important to ensure that an identifiable organic process is not missed and that appropriate treatment is delivered.
- Counseling and reassurance are critical to the management of these conditions; understanding the pathophysiology of FGIDs plays an important role in this process.

BACKGROUND

Abdominal pain in children is incredibly common. Estimates vary, but reports suggest a prevalence of about 15% of children worldwide.[1] Pain may occur as often as once per week in about 40% of school-aged children.[2] It can interfere with sleep and daily functioning; children miss school, and parents lose time at work. Hence, when children complain, their worried parents may bring them to medical attention. Abdominal pain is among the top 20 most common diagnoses of all outpatient medical visits.[3] It comprises 8% of all emergency room visits.[4] These visits frequently result in testing, which can be expensive and invasive. One pediatric gastroenterology practice estimated the average cost of work-up per patient presenting with likely benign abdominal pain at approximately $6000.[5] This testing is driven by the goal of timely identification of serious or acute gastrointestinal (GI) conditions such as hepatobiliary disease, pancreatic disease, inflammatory bowel disease, or acute surgical processes. When these are excluded, work-up may reveal less worrisome or nonacute conditions, such as *Helicobacter pylori*, celiac disease, acid peptic disease, gastroesophageal reflux

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disease, or eosinophilic esophagitis. But most often, testing demonstrates no anatomic or biochemical abnormality. In the past, various terms have been used to describe this condition, including chronic abdominal pain or recurrent abdominal pain. Currently, it is most often called functional abdominal pain. Though the source of this pain is benign, it can be debilitating. Providers are challenged with a distressed child and concerned parents, but without the help of a clear biomarker to guide diagnosis and treatment.

FUNCTIONAL GASTROINTESTINAL DISEASES

Functional abdominal pain is one of many functional GI disorders (FGID).[6] The pathophysiology underlying these conditions is not fully understood. The best understanding is that they result from dysfunctional interaction between the enteric nervous system, which innervates the GI tract, and the central nervous system (CNS). This interaction is more simply referred to as the brain-gut axis. There are both psychosocial and physiologic factors contributing to this process.[7]

Unfortunately, these conditions remain poorly defined, because there are no tests to provide a definitive diagnosis. Instead, they are categorized according to their specific constellation of symptoms. In an effort toward standardization, a worldwide group of experts, The Rome Working Group, has defined these terms. Their most recent publication constitutes the Rome IV criteria for FGIDs.[6] Much like the Diagnostic and Statistical Manual of Mental Disorders V (DSM V) in psychiatry, the Rome IV criteria provide clinicians with a framework upon which to diagnose and treat these commonly encountered GI conditions.

According to the Rome IV criteria, functional abdominal pain occurs at least 4 times per month, episodically or continuously, not only during physiologic events such as stooling or eating. It is distinguished from irritable bowel syndrome (IBS), which is characterized by pain associated with a change in the frequency and form of stool. It is also distinguished from functional dyspepsia, in which the pain or burning occurs in the upper abdomen, specifically related to eating (postprandial fullness and early satiety). The pain associated with abdominal migraine is described as paroxysmal, severe, and associated with nausea, vomiting, anorexia, photophobia, or headache. Episodes are stereotypical, discrete, and separated by weeks to months, with symptom-free periods in between bouts. The term functional abdominal pain not otherwise specified was recently updated in order to distinguish it from the pain associated with these other FGIDs[8](**Table 1**). Defining these terms is critical for researchers to ensure appropriate characterization of study populations. Adherence to Rome criteria allows uniformity of subject groups, ensuring comparisons are apples to apples.

A familiarity with these terms is also helpful in clinical care. However, in a busy practice, the Rome criteria can be cumbersome, so they are not strictly used. Patients may overlap multiple syndromes or may not fully meet criteria. Nevertheless, they are critical to the understanding of these conditions as positive diagnoses. Much like a migraine headache, functional abdominal pain is real and at times debilitating. Like headaches, FGIDs lack a simple blood test, although this does not prevent clinicians from providing an unequivocal diagnosis and a clear treatment plan. This is in contrast to past frameworks, which conceptualized FGIDs as negative diagnoses. In this scenario, the focus was on excluding identifiable organic sources of abdominal pain first. When testing returned unrevealing, patients were told, everything is normal; yet they remained symptomatic. This contradiction resulted in patient frustration and distrust toward the provider. When inappropriately counseled