



Evaluating and Treating Functional Abdominal Pain



When your child needs a hospital, everything matters.SM

What Is Functional Abdominal Pain?

Chronic abdominal pain is considered to be of functional origin when it cannot be explained by an organic, metabolic, inflammatory or neoplastic process. Functional abdominal pain disorders include irritable bowel syndrome (IBS), functional abdominal pain/syndrome, functional dyspepsia and abdominal migraine. Abdominal migraine is a distinct entity that is characterized by intermittent episodes of severe and debilitating abdominal pain.

This group of conditions can be diagnosed clinically using the Rome III criteria. The criteria were developed to classify functional gastrointestinal disorders (FGIDs) based on clinical symptoms.

Rome III Criteria for Diagnosing Abdominal Pain-Related FGIDs in Children and Adolescents

Functional dyspepsia (must include both of the following)

- Persistent or recurrent pain or discomfort centered in the upper abdomen (above the umbilicus)
- Not relieved by defecation or associated with the onset of a change in stool frequency or stool form (i.e., not irritable bowel syndrome)

Irritable bowel syndrome

- Abdominal discomfort or pain associated with two or more of the following at least 25 percent of the time:
 - Improvement with defecation
 - Onset associated with a change in frequency of stool
 - Onset associated with a change in form (appearance) of stool

Abdominal migraine (must include all of the following)

- Paroxysmal episodes of intense, acute periumbilical pain that lasts for one hour or more
- Intervening periods of usual health lasting weeks to months
- The pain interferes with normal activities
- The pain is associated with two of the following: anorexia, nausea, vomiting, headache, photophobia or pallor

Childhood functional abdominal pain (must include both of the following)

- Episodic or continuous abdominal pain
- Insufficient criteria for other FGIDs

Childhood functional abdominal pain syndrome

- Satisfies criteria for childhood functional abdominal pain
- Has one or more of the following at least 25 percent of the time:
 - Some loss of daily functioning
 - Additional somatic symptoms such as headache, limb pain or difficulty sleeping

Pathogenesis of Functional Abdominal Pain

The pathogenesis of functional abdominal pain disorders is not completely understood, but it is thought to be related to a dysregulation in the interaction between the brain and the gut.

Studies of gastrointestinal balloon distention of the stomach and the rectum and functional MRI studies of the brain have shown that children with functional abdominal pain disorders frequently have abnormal pain processing, enhanced perception of visceral stimuli and heightened attention to the signals coming from the gastrointestinal system (hyperawareness). These findings are important because they explain some of the treatments used in children and adults.

Functional Abdominal Pain Characteristics and Associations

Adverse painful events occurring early in life and gastrointestinal inflammation can predispose children to develop chronic abdominal pain. The onset of symptoms sometimes follows an episode of acute gastroenteritis. Most frequently, however, no precipitating event can be found in the patient's history.

Functional abdominal pain is frequently localized to the periumbilical area -- or epigastrium in cases of functional dyspepsia -- but it may occur in any area of the abdomen. Often, the pain is associated with nausea, difficulty sleeping and non-gastrointestinal symptoms including headaches and joint pain. For IBS, the pain is also associated with changes in bowel movements.

School Attendance

As a result of these troubling symptoms, children with functional abdominal pain disorders may frequently miss school. Children should be strongly encouraged to attend school to the best of their abilities. In some cases, the child may need to attend school on a shortened schedule and work his/her way up to a full day of school.

It is important for the parents or caregivers to understand that staying at home from school leads to higher disability, greater focus on pain and fewer opportunities for distraction and social interaction. In addition, children who stay at home for long periods of time may become physically deconditioned and less secure on their ability to interact with their peers. Children who stay at home sometimes adopt a sick role that makes their rehabilitation more difficult.

Testing

In certain cases, testing is necessary to rule out a suspected organic disease. However, testing should always be limited and focused to rule out a specific presumptive diagnosis.

Testing is recommended in cases that the child presents with alarm features.

Alarm features include:

- Abdominal pain predominantly localized in the right upper or right lower quadrants
- Blood in the stools
- Slow or delayed growth and delayed puberty
- Odynophagia
- Dysphagia
- Persistent vomiting

General workup may include complete blood count, comprehensive metabolic panel and determination of blood in the stools and tissue transglutaminase and IgA to rule out celiac disease. Determination of calprotectin in the stools is particularly useful when inflammatory bowel disease is suspected.

Additional tests, such as CT scans, MRIs, radiology and abdominal ultrasound, may be indicated if there are specific concerns. The presence of nausea does not indicate that the patient requires an endoscopy.

Treatment Options

Treatment of functional abdominal pain disorders should include reassurance, empathy and education. Children and families should be assured that the care team believes their report of symptoms. The care team should explain that symptoms without a physical cause are common (another example is headaches) and can be of great intensity.

Dedicating time in gaining the trust and establishing a good relationship with patients and their families is of particular importance because of the high placebo benefit in the treatment of functional abdominal pain disorders. Additionally, cognitive behavioral therapy and hypnotherapy have been shown to be effective in the treatment of functional abdominal pain disorders. There is limited evidence, however, of the efficacy of acupuncture and yoga for the treatment of these disorders.

The success of some of these interventions, as well as the powerful effect of placebos, demonstrates the relationship between the brain and the gut and the importance of the central nervous system in the pathophysiology of functional abdominal pain disorders. Dietary supplements are also popular complementary treatments with these patients. Probiotics may be effective in particular in cases of abdominal pain, bloating and diarrhea. The role of fiber in the treatment of functional abdominal pain disorders is not clearly established. If fiber it is to be used in patients with IBS, the use of soluble fiber is preferred.

When to See a Specialist

Children should be referred to a pediatric gastroenterologist for further testing and/or treatment in the event of:

- Failed treatment
- Presence of alarm features
- Abnormal workup results (including abnormal celiac tests)

Referrals and Consultations

Online: NationwideChildrens.org/GI

Phone: (614) 722-6200 or (877) 722-6220 | Fax: (614) 722-4000

Physician Direct Connect Line for 24-hour urgent physician consultations:
(614) 355-0221 or (877) 355-0221.

