RECURRENT ABDOMINAL PAIN IN CHILDREN

A common condition in children, clinically challenging to diagnose and treat.

Dr. Kenneth Looi Chia Chuin,
Consultant Pediatrician,
Columbia Asia Hospital Cheras

As a pediatrician, one of the most common yet challenging medical conditions in daily practice is the recurrent abdominal pain (RAP). It is undoubtedly common, affecting 10% to 20% of school-going children. It is also very disruptive to families and often not accompanied by easily definable organic pathology. In fact, despite extensive investigations, there are no identifiable organic causes in the majority of the cases.

'Recurrent Abdominal Pain' is commonly defined as pain that occurs for at least three episodes within three months and is severe enough to affect a child's activities. It occurs most commonly between ages 4 and 14 years, with peaks in incidence at 4-6 years and 7-12 years. Girls are probably affected more often than boys.

COMMON CAUSES

Constipation is a major cause of chronic or recurrent abdominal pain in children from toddler age to the preteen years. Constipation is best defined as the failure to achieve complete evacuation of the lower colon rather than regarding infrequency or firmness of stool. Many children experience crampy abdominal pain especially after large meals, reduced appetite and abdominal distension which typically worsen in the evening. Passing hard stools can be very painful. Hence, most constipated children avoid passing stools and this, in turn, leads to hard impacted stools – the vicious cycle of constipation. However, one must also remember that some of the children can have overflow incontinence – where watery stool leaks around the hard-impacted stool and can be mistaken as diarrhea. A careful examination of the abdomen might reveal fecolith at the lower quadrant of the abdomen.

The **peptic disorders** include reflux esophagitis, antral gastritis, gastric and duodenal ulcer, and *H. pylori* infection. Children with peptic disease usually present with early morning pain – usually epigastric or periumbilical, early satiety and night arousal. The pain is not relieved by defecation and there is usually no change in bowel habit. However, there is often a positive family history; fifty percent of children with duodenal ulcer have a first-degree relative with peptic ulcer disease. On the other hand, the role of H. pylori infection in RAP remains unclear, as many children suffering from RAP with associated H. *pylori* has persistent pain even after successful treatment.

Did you know

In Asia, carbohydrate intolerance is a common cause of RAP – lactose being the most common carbohydrate involved.

It can be challenging to diagnose lactose intolerance as the pain only appears a few hours after milk ingestion. Most children have increase in flatulence, with or without diarrhoea. Other carbohydrates that may be responsible for RAP include sorbitol, a food additive. Mostly, diagnosis of carbohydrate intolerance can be made by means of food withdrawal and challenge. Laboratory tests, such as breath hydrogen test, are often unnecessary.

Abdominal migraine is another possible cause of recurrent abdominal pain. By definition, there must be no evidence of an inflammatory, anatomical, metabolic, or neoplastic process that explains symptoms. There should be two or more episodes in the preceding 12 months and must include all of the following:

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

Children with **Inflammatory bowel** disease often have pain which typically occurs in the lower abdomen, is cramping in nature and increases after meals or activity. Some may also have loss of appetite, general lethargy, fever, diarrhoea and non-intestinal manifestations such as arthralgia, arthritis or delay in pubertal developments. Patients with ulcerative colitis might present with abdominal pain with bloody stools. The diagnosis is established by small bowel barium contrast x-ray and colonoscopy with biopsies.

Some **surgical conditions** can present as RAP. These include recurrent intussusceptions, Meckel diverticulitis, intestinal malrotation, choledochal cyst and intestinal lymphoma.

Alarm signs and symptoms

RED FLAG SIGNS	RED FLAG SYMPTOMS
• Evidence of weight loss or decline in height velocity • Pallor/jaundice • Organomegaly or palpable mass in the abdomen • Localised tenderness away from the umbilical region • Perianal abnormalities • Joint swelling, redness or warmth, finger clubbing • Ventral hernia of the abdominal wall	• Localisation of pain away from the central abdominal region • Pain associated with changes in bowel habit, particularly diarrhea, constipation or nocturnal bowel movement • Pain associated with night-walking • Constitutional symptoms such as recurrent fever, and loss of appetite and energy • RAP in very young children aged < 4 years • History of weight loss or poor growth • Recurrent unexplained fever • Recurrent bloody stools • Unexplained pallor

CLINICAL APPROACH

The most important approach in RAP is still taking a detailed history-taking and careful clinical examination. Extensive investigations are not recommended and are only carried out to exclude particular conditions suggested by the history and examination. It is useful to pursue further diagnostic testing only in the presence of alarm symptoms.

MANAGEMENT

The management of RAP often requires a multidisciplinary approach. Pharmacological treatment, nutritional recommendation, behavioural therapy and family therapy need to be tailored for each individual. Clinicians must be empathic and acknowledge that the pain is 'real' while providing ample reassurance that there is no serious underlying organic cause. Long term follow up is important because as much as 30% of patients have symptoms persisting into adulthood. IM

References:
Quek SH; Recurrent abdominal pain in children: a clinical approach. Singapore Med J. 2015 Mar;56(3):125-8; quiz 132.
Berger MY, Gieteling MJ, Benninga MA; Chronic abdominal pain in children. BMJ. 2007 May 12;334(7601):997-1002.
Gray L; Chronic abdominal pain in children. Aust Fam Physician. 2008 Jun;37(6):398-400.
Alan M. Lake; Chronic Abdominal Pain in Childhood: Diagnosis and Management. Am Fam Physician. 1999 Apr 1;59(7):1823-1830.