Chronic or functional abdominal pain

Author: Dr O Sanwo / Dr M Lazner / Paediatric Gastroenterology Team / Dr L Perera
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Background

- Chronic abdominal pain = 3 or more episodes of abdominal pain over the last 3 months in children aged over 3 years which is severe enough to affect their daily activities.
- 10-14% of children have been diagnosed with chronic abdominal pain, but of these only 5-10% will have an underlying organic pathology
- Remember to consider gynaecological causes in adolescent females e.g. PID / ovarian pathology
- Coeliac disease is common (1 in 100) and should be excluded.

Assessment

In the absence of red flags, there is no evidence that any other symptoms, or any investigations can adequately differentiate between functional and organic pain.

Do coeliac screen in ALL children if not already done in the last year. Consider doing FBC / CRP / U&E / LFT + urine dip + faecal calprotectin +/- abdo / pelvic ultrasound on initial assessment or if not previously done (but see below).

More than 3 episodes of abdominal pain over last 3 months
Age greater than 3 yrs
Daily activities affected

If not present consider alternative diagnosis

If negative → Diagnosis of functional abdominal pain * with explanation

Red flag Symptoms
- Involuntary Weight loss
- Faltering growth
- Right upper / lower quadrant pain
- GI bleeding
- Family history of IBD
- Urinary Symptoms
- Chronic / severe vomiting / diarrhoea
- Back/flank pain

Red flag Signs
- RUQ/RLQ. pain
- Abdominal mass
- Hepatosplenomegaly
- Spinal tenderness
- Jaundice
- Perianal abnormalities
- Finger clubbing
- erythema nodosum
- pyoderma gangrenosum
Important differentials of chronic abdominal pain in addition to above ‘red flags’:

### Chronic constipation
Take full history about the bowel habit (frequency, consistency, size, excessive straining, smearing / soiling). More likely if abdo pain is constant and happens daily, particularly worsened with meal (as food stimulates peristalsis).

### Others to consider (seek Gastroenterology advice)
- Small bowel bacterial overgrowth (bloating, flatulence, belching, halitosis, intermittent diarrhoea)
- Food protein intolerance / allergy (milk, egg, wheat, soya), or sugar intolerances such as fructose, lactose, sucrose.

Use Rome IV Criteria to help differentiate between the types of functional abdominal pain

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Criteria</th>
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| **Functional abdominal pain- Not otherwise specified**  
(new includes FAP disorder, and FAP syndrome) | * Episodic or continuous abdominal pain occurring at least 4 times per month  
* Insufficient criteria for IBS, functional dyspepsia or abdominal migraine  
* Cannot fully be explained by another medical condition after appropriate evaluation  
Does not solely occur with physiological events e.g. menses  
* Can coexist with other medical conditions such as inflammatory bowel disease |
| **Functional Dyspepsia**                       | * Persistent/recurrent epigastric pain  
* No relief on opening bowels  
* No change in stool frequency or form |
| **Irritable Bowel syndrome**                   | * Abdominal pain present for 1 day per week in the last 3 months with symptoms present for at least 6 months prior to diagnosis. Associated with 2 of more of the following at least 25% of the time:  
→ Pain related to defecation  
→ Associated change in stool frequency or form |
| **Abdominal Migraine**                         | * Paroxysmal episodes of intense, acute, peri-umbilical pain lasting more than 1 hour  
* Intervening periods of usual health lasting weeks to months  
* Pain interferes with normal activity  
* Associations (2+): anorexia, nausea, vomiting, photophobia, pallor  
**Must occur more than 2 times in the preceding 12 months** |

NB. In most cases, functional abdominal pain is ill-defined and poorly localized or peri-umbilical. Episodes of pain usually last for less than one hour, and resolve spontaneously. They may be triggered or exacerbated during times of stress (e.g. school transitions, parental divorce, emotional trauma). The child is well and functions normally between episodes but may have symptoms of anxiety or depression (separation anxiety, social phobias, specific phobias, generalized anxiety). Alarm symptoms are lacking. The family history often is positive for IBS, reflux, constipation.

Difficult cycle to break: pain perception → worry about the pain and anticipation → worsening of pain / up-regulation of pain → pain perception.
Follow up

Most children should be able to be followed up by their GP. Remember if any tests are done or arranged, they will need to be chased and dealt with by the hospital team, not the GP.

Only arrange outpatient follow up in the general paediatric clinic at RACH if:

- an organic cause for pain is considered or discovered, or
- Repeated CED attendances with abdominal pain, or
- Repeated attendances to GP or loss of faith in GP

Management approach to functional or medically unexplained abdominal pain

- At the time of presentation, the parents and child may be frustrated or increasingly concerned that the child has a serious disorder. The parents should be asked (non-confrontational) what they are worried is causing the pain, so that their concerns can be directly addressed. It is important to establish a therapeutic alliance early in the course of evaluation and treatment.

- The focus of management is the improvement of function rather than complete resolution of pain.

- Important to clearly state from the beginning that although the pain is real, it does not necessarily mean it is caused by an abnormality in the workings of the bowel. We are performing baseline tests (for “your/your child’s reassurance) and fully expect these to be normal (if parents are happy for tests not to be done, and there are no red flags, you do not need to do any further tests other than a coeliac screen). Patients will be less likely to feel ‘fobbed off’ by a later explanation of functional illness if the concept has been introduced early on.

Example explanations

- This type of pain is really common in people of your age, and while we may not be able to stop you feeling the pain, there are lots of ways we can help you continue doing the things you enjoy.

- The body has different ways of coping with pain. Sometimes after a mild illness / event, the way the body processes pain changes. Nerve signals from the gut or brain can cause the gut to be more sensitive to triggers that do not usually cause pain, such as stretching or bloating. Therefore a lot of the sensations that are usually filtered out are felt more deeply. The body recognises this as pain, and sends out more signals to try to address this pain, which then can worsen the pain. This is called up-regulation of pain pathway / receptors “body’s pain thermostat is set too high”.

- Severity of pain is not necessarily related to severity of disease. There are studies in rheumatological diseases supporting this.

- Sometimes these feelings can be brought on by a stressful situation, in the same way that lots of people get headaches when they are worried, nauseous when given bad news, need to urinate when nervous, or develop loose stools when anxious. This is a normal way the body deals with stressful situations.
Discuss with senior staff prior to performing investigations, particularly in chronic patients, as differing plans and advice in patient care (such as doing tests when previously felt unnecessary) can cause the family to distrust their own medical team, and is often cited as a cause of frustration felt by patients and their parents.

- Please check G2 letter finder / Panda for patients with a longstanding history or multiple attendances

**Management techniques should address all aspects of the biopsychosocial model of care:**

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<td>Pain sensation</td>
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<td>Gastrointestinal mobility</td>
<td>Medications</td>
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<td>Visceral sensitivity</td>
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<td>Mucosal immunity</td>
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<td>Mucosal permeability</td>
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<td>Inflammation</td>
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- Perception of pain

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**References:**

- Chronic abdominal pain in Children (AAP, 2005)
- Functional Abdominal Pain in Children (Khan, American College of Gastroenterologists, Patient Education and Resource Centre, 2012)

**Biological treatment:** physiotherapy, pain relief

**Psychological treatment:** development coping mechanisms, family therapy to help parents/other family members deal with the chronic illness, as well as discuss any preceding trauma which may have precipitated pain

**Social treatment:** Have ‘social’ aims of treatment- for example going back to school 3 days a week after prolonged absence, going for a walk along the beach once a day after being bedbound. Developing coping mechanisms to deal with pain e.g. for younger children conceptualising pain as a creature in their tummy that they need to imagine locking into a box.

Education regarding the proposed mechanisms of functional abdominal pain (e.g. visceral hyperalgesia, reduced pain threshold, impaired gastric relaxation response to meals) validates the patient's pain and sets the basis for therapeutic interventions

**Other resources:**

- RACH guideline: resources for pain and anxiety related symptoms