

PedsCases Podcast Scripts

This is a text version of a podcast from PedsCases.com on "Chronic Abdominal Pain in Children." These podcasts are designed to give medical students an overview of key topics in pediatrics. The audio versions are accessible on iTunes or at www.pedsCases.com/podcasts.

Chronic Abdominal Pain in Children

Developed by Peter MacPherson and Dr. Melanie Lewis for PedsCases.com.
June 22, 2010

Introduction

Peter: Hi everyone, my name is Peter MacPherson and I'm a medical student at the University of Alberta. I'm joined today by Dr. Mel Lewis. Dr. Lewis is a general pediatrician and an Associate Professor of Pediatrics at the Stollery Children's Hospital and University of Alberta. She is also the Pediatrics Clerkship Director.

Today, we're going to be talking about chronic abdominal pain in kids. We covered acute abdominal pain in a different podcast. We'll take you through an approach to the history and physical in these cases, discuss laboratory investigations and imaging and go over some specific causes of chronic abdominal pain. Sound like a plan?

Dr. Lewis: Sounds great The first thing I'd like to point out is that chronic abdominal pain is extremely common – somewhere in the neighborhood of 10-15% of school-age children have chronic abdominal pain. We'll see that most of these cases are functional pain. Around 10% of these children will have an organic cause, but these less common causes ALWAYS need to be considered in your evaluation of a child's abdominal pain.

Chronic abdominal pain, which is also called recurrent abdominal pain, is generally defined as at least 3 attacks over at least 3 months that affect activities. It's usually episodic.

History:

Peter: Let's start with the history. What's a typical history for functional abdominal pain?

Dr. Lewis: In cases of functional abdominal pain, the pain is typically periumbilical. Alternately, it can be vaguely localized. It occurs in self-limited episodes that last less than 3 hours. There is no association with meals or activities. Generally, these episodes interrupt normal activities more than might be expected – such as a child who has missed several months of school. As we just said, by definition, these episodes will have been going on for at least three months.

Peter: So just to review that, the students should ask about the following to get a sense
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of functional abdominal pain:

- The location of the pain
- How long the child has been having these episodes, and how long they last
- Are the episodes related to meals or activities?
- Do they interrupt normal activities?
- Absence of Red Flags; which will be reviewed in a moment.

Dr. Lewis: That's right, you would also want to ask about social, school or family stressors, diet, sleep patterns and any manifestations of school avoidance, anxiety or depression.

Also ask about any medications that could cause be the cause of abdominal pain.

Peter: On history, what are the red flags on history that would suggest an organic cause?

Dr. Lewis: Here are some red flags on history that you must ask about in a case of chronic abdominal pain:

- Weight Loss or Poor growth
- Pain that is not periumbilical. You will likely hear from your preceptors that the further away the pain is from the umbilicus, the more likely it is to have an organic cause.
- Change in bowel habits, especially if the child is up at night to defecate or if there is diarrhea or constipation.
- If the pain wakes the child at night, that needs to be taken seriously.
- If the pain is associated with repeated vomiting, especially if it is bilious.
- Any constitutional symptoms such as fever, decreased energy and loss of appetite
- If the pain is occurring in a child younger than 5. Under the age of 5, functional pain is much less common, making the organic causes more likely than in older children.

Any of these features are worrisome.

Physical Examination:

Peter: Next topic: the physical examination. What should students be on the lookout for?

Dr. Lewis: You will need an accurate height and weight, as they can be indicators of an organic pathology if they are affected. For instance, many cases of IBP will demonstrate significant slowing of growth velocity less than 5 cm/yr before the onset of obvious GI pathology.

Obviously, students will need to do an abdominal exam. Tenderness on palpation may be a more accurate way to localize the pain than a young child's report of where their pain is located. The perianal area should be inspected for fissures and skin tags. In general, you should not do a rectal exam unless it contributes to your differential or management as this can be extremely upsetting for children.

You should also seek out extraintestinal manifestations that might suggest inflammatory bowel disease such as rashes, aphthous ulcers, and arthritis.

Peter: So aside from the abdominal exam, we would need to do examine the perianal area, check for extraintestinal manifestations and get an accurate height and weight. What are the physical exam red flags?

Dr. Lewis: The red flags on physical examination are:

- Weight loss or decreased growth velocity suggest a serious underlying cause (a normal child should grow at least 5cm/yr)
- Any organomegaly
- Abdominal tenderness that is localized, especially if it is not periumbilical
- Perirectal abnormalities like fissures, skin tags or ulcerations
- Swollen, warm or hot joints that might suggest IBD
- Ventral hernias of the abdominal wall

Investigations:

Peter: Let's move on to investigations. What investigations should all children with abdominal pain get and what are some extra investigations that may be warranted based on the history and physical.

Dr. Lewis: Let's start with the baseline investigations. This is a case where your investigations need to be targeted and limited. The large majority of these children have no underlying organic cause and unnecessary investigations can lead to unnecessary anxiety on the part of these children and their families.

Everyone should get a CBC and differential, a urinalysis and a fecal occult blood test. Those three tests are a good screen for most of the pathologies we worry about.

Peter: So the standard investigations are a CBC+D, urinalysis and a FOBT. What other investigations might helpful in individual cases?

Dr. Lewis: If there was significant diarrhea, you would want to do a stool culture and send the stool for ova and parasites.

If inflammatory bowel disease is a possibility, you should do an erythrocyte sedimentation rate, serum protein and albumin.

If you suspect peptic ulcer disease, a referral to a gastroenterologist may be prudent. They may do an endoscopy with biopsy.

Peter: Is there any role for imaging?

Dr. Lewis: There is a limited role for imaging. In terms of X-rays, a single view of the abdomen could be of value if you suspect constipation.

For most children, abdominal ultrasonography is not helpful. An ultrasound would be indicated for any child with localized pain, any child with abnormalities on urinalysis or a girl of any age who has pain in the lower abdomen.

Etiology:

Peter: Now that we have covered an approach, we're going to briefly discuss some of the specific causes of chronic abdominal pain, we'll save functional abdominal pain for the end of the podcast. First up is irritable bowel syndrome.

Dr. Lewis: Sure. Irritable bowel syndrome is classified as a functional bowel disorder, but it is distinct from Childhood Functional Abdominal Pain. The diagnosis is clinical.

To diagnose IBS, you need abdominal discomfort or pain that occurs at least 25% of the time and is associated with two or more of the following three features:

- The symptoms are improved by defecation
- The onset is associated with a change in stool frequency
- The onset is associated with a change in stool form, which could be hard, loose or watery

You also need to exclude more sinister pathologies that could explain the symptoms.

Peter: Why don't we talk about inflammatory bowel disease next?

Dr. Lewis: Sure. Ulcerative colitis tends to present obviously with abdominal pain, hematochezia and tenesmus. However, Crohn's disease can present much more subtly at the onset. In Crohn's, the abdominal pain and diarrhea can be intermittent. Other signs and symptoms can include lethargy, delay of growth and puberty and extraintestinal manifestations. In particular, look for oral, joint and perianal involvement. You can see nighttime symptoms. The pain can be periumbilical or in the right lower quadrant.

As we mentioned, you would want an ESR and serum protein and albumin if you were entertaining IBD in your differential. The diagnosis would be made by endoscopy.

Peter: Why don't we talk about a very uncommon cause of abdominal pain in children – peptic ulcer disease.

Dr. Lewis: Sure, you would suspect peptic ulcer disease in the case of a child with epigastric pain. In these kids, the pain can wake them from sleep, and there is anorexia, nausea, vomiting as well as anemia or GI bleeding. As you said, this is rare so testing for *H. pylori* is not standard for kids with abdominal pain. Additionally, *H. pylori* infection on its own doesn't seem to be the cause of abdominal pain in the absence of coexistent peptic ulcer disease.

Peter: The next topic is constipation – which can present either in an emergency department or in a physician's office.

Dr. Lewis: Constipation is something that most kids don't want to talk about, and many parents won't be aware that their child is constipated. It's a very common cause of abdominal pain and discomfort in kids. It's mostly caused by dietary factors. Such as poor fibre intake, poor fluid intake, or introduction of solids in infants. Sometimes it will be obvious and you will get a history of several days between bowel movements and hard, bulky stools. However, constipated children can trick you as they often poop every day but it's literally the tip of a very, very large iceberg. As we mentioned, a radiograph of the abdomen can be helpful in making the diagnosis.

Peter: Great. Let's talk about lactose intolerance and after that we'll move on to functional abdominal pain.

Dr. Lewis: Lactose intolerance is fairly uncommon especially under the age of 5 years. It presents as flatulence, cramping abdominal pain and diarrhea about half an hour to two hours after ingestion of products that contain lactose. Patients may also report nausea and bloating. It's important to note that lactose intolerance does not cause malnutrition or growth failure. You can make the diagnosis by a hydrogen breath test. Another option is a trial of a strict lactose-free diet for a couple weeks or enzyme supplementation, which is OTC.

Peter: And that brings us to Functional Abdominal Pain, which makes up the lion's share of children with chronic abdominal pain. Can you tell us a little bit more about that?

Dr. Lewis: As we talked about at the start of the podcast, in functional abdominal pain, the pain is typically periumbilical. Alternately, it can be vaguely localized. It occurs in self-limited episodes that last less than 3 hours. There is no association with meals or activities. Generally, these episodes interrupt normal activities more than might be expected.

This describes most of the children with chronic abdominal pain. This is a complex condition in which altered gut motility, abnormal visceral perception and psychosocial factors all play a role.

Communicating with families:

Peter: So let's say that we did our history and physical exam and looked for all the red flags. We did our baseline investigations of a CBC+D, urinalysis and fecal occult blood test and they were all normal. How do you communicate the diagnosis of functional abdominal pain to families?

Dr. Lewis: You need to make sure that the parents understand that this is a real diagnosis and that their child isn't "faking" the pain. It may help to explain the concept of visceral hyperalgesia and brain-gut interactions, but don't use those words. Say it in ways that normal people will understand! My analogy is that it is similar to a headache. We've all had one and we know the pain is real – but there is usually no sinister underlying pathology. Headaches are aggravated by lack of sleep and stress, which also happens in chronic abdominal pain in childhood.

Take home points:

Peter: So we're almost ready to wrap up this podcast. Dr. Lewis, could you give us some take home points?

Dr. Lewis: Sure. The important messages about chronic abdominal pain to remember are:

- a) Most chronic abdominal pain in children is functional, but you need to rule out other causes.
- b) The red flags on history are:
 - i) Weight loss or poor growth
 - ii) Pain that is not periumbilical.
 - iii) Change in bowel habits.
 - iv) Pain that wakes the child at night.
 - v) Pain that is associated with repeated vomiting
 - vi) Any constitutional symptoms such as fever, decreased energy and loss of appetite
 - vii) Pain that is occurring in a child younger than 5.
- c) The red flags on physical are:
 - i) Weight loss or decreased growth velocity
 - ii) Any organomegaly
 - iii) Abdominal tenderness that is localii.ed, especially if it is not periumbilical
 - iv) Perirectal abnormalities like fissures, skin tags or ulcerations
 - v) Swollen, warm or hot joints
 - vi) Ventral hernias of the abdominal wall

Peter: Well, that concludes our podcast. Thanks for listening.

References:

References available upon request.