CLINICAL CASE REPORTS

Clinical Case Reports Journal

ISSN: 2767-0007

Chronic Abdominal Pain due to the Unrecognized Stricturing Crohn's Disease: A Case Report

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Article Type: Case Report

Compiled date: November 12, 2021

Volume: 2

Issue: 4

Journal Name: Clinical Case Reports Journal

Publisher: Infact Publications LLC

Journal Short Name: Clin Case Rep J

Article ID: INF1000112

Keywords: Abdominal pain; Constriction; Crohn disease; Magnetic resonance imaging

Cite this article: Romanko I, McPartland K, Frasko R. Chronic abdominal pain due to the unrecognized stricturing Crohn's disease: a case report. Clin Case Rep J. 2021;2(4):1–3.

Abstract

This case report illustrates a stricturing Crohn's disease insidiously progressing over several months into the intestinal obstruction. Extensive out-patient examination by Computed Tomography (CT), CT angiography, endoscopy, and plain nuclear Magnetic Resonance Imaging (MRI) showed no obvious pathology until complications manifested as an ileus. Abdominal pain without obvious pathology should be investigated further with advanced imaging methods rather than establishing a diagnosis of functional dyspepsia.

Introduction

Crohn's Disease (CD) is an inflammatory bowel disease that typically affects the terminal ileum. Other manifestations include colonic or proximal forms, affecting the stomach and small intestine. The Montreal classification is used to classify CD according to the age of diagnosis, location, and behavior [1]. Usual clinical symptoms include abdominal pain, frequent bowel movements, the presence of blood or mucus in stool, and a raised temperature. Most patients present with a non-stricturing, non-penetrating form, while 21% of patients are newly diagnosed with stricturising disease [2].

In some cases, extra-intestinal manifestations (artralgia, uveitis, erythema nodosum, spondylarthritis) could be present before gastrointestinal tract lesions. CD usually affects younger patients, with a median age of 33 years (24 years–50 years). The median time to diagnosis is about four months, according to the Epi-IBD study [2].

This case illustrates how a stricturing form of CD can insidiously progress into intestinal obstruction, resulting in chronic abdominal pain. Therefore unnoticed for several months due to problematic imaging of the small bowel.

Case Presentation

A 56-year-old female visited our Emergency Department (ED) without a referral. She presented with progressive abdominal pain, which had started three months ago. Symptoms began as episodic epigastric pain related to ingestion, resolving spontaneously within minutes to hours. She was experiencing variable pain-free intervals between the attacks. Symptoms worsened in severity over one month before presenting to ED until she had almost constant pain localized to the epigastrium. The pain was exaggerated by food ingestion, intermittent abdominal cramps, and radiation of pain into the hypogastrium. Other symptoms included malaise, with 5 kg weight loss over six weeks. No nausea, vomiting, or change in

bowel habits was noted.

Her past medical history included hypertension, rheumatoid arthritis, nephrolithiasis of right kidney, previous episode of acute pancreatitis, chronic obstructive pulmonary disease, and previous deep vein thrombosis with pulmonary embolism (17 years prior to presentation at ED). In addition, she had a previous history of hysterectomy with bilateral salpingo-oophorectomy for menorrhagia. There was a family history of unspecified gastrointestinal malignancy on the maternal side. However, the specific diagnosis remained unknown. There were no signs or history of psychiatric or psychological disorders. She had a supportive family.

Her chronic medication included sulodexide, methylprednisolone, folic acid, telmisartan, atorvastatin, vitamin D, bronchodilators, and inhalation steroids pantoprazole and itopride. She had ceased almost all medication a month before she visited our ED and continued only on pantoprazole 40 mg twice daily and itopride 50 mg 3 times per day. She denied the use of any over-the-counter painkillers or spasmolytics, including non-steroid anti-inflammatory drugs.

Before her referral to our facility, she had been managed as an outpatient, having undergone gastroscopy, colonoscopy, plain Magnetic Resonance Imaging (MRI) of the abdomen, and abdominal CT angiography without finding any significant pathology. She was treated several times at the emergency department of another facility for abdominal pain without any remarkable findings and was screened serologically for coeliac disease with negative results. CT or MR enterography had not been performed.

On presentation to our ED, her vital signs were stable and physical examination revealed epigastric tenderness without signs of peritonism. Electrocardiogram (ECG) showed non-specific repolarization changes (already previously known), and abdominal ultrasound was unremarkable. Full blood count, liver function tests, renal function, total protein, amylase, and albumin were normal. C-reactive protein (CRP) was slightly elevated at 9 mg/l. She responded well to analgesia and was booked for elective admission for further evaluation. Differential diagnoses included intestinal lymphoma, small intestine lesion, or chronic pancreatitis. After admission to the ward, repeated gastroscopy showed normal macroscopic findings. However, the histology revealed lactase deficiency in the duodenal specimen by immune-histochemical staining. Abdominal ultrasound and a second opinion on plain Magnetic Resonance Imaging (MRI) showed no pathology. Medication during hospitalization included chronic medication of sulodexide, telmisartan, pantoprazole, new simethicone, sertraline, metoclopramide. She was commenced on metronidazole and amoxicillin for small intestine bacterial overgrowth syndrome, which was also considered a differential diagnosis. Due to minimal oral intake, a nasojejunal tube was inserted but was not tolerated by the patient and had to be removed. Screening for tuberculosis, porphyria, and cytomegalovirus infection were all negative. Pancreatic endosonography was scheduled but was not performed due to the patient's deterioration. After 13 days of hospitalization, she experienced severe abdominal pain and vomiting after eating, and an urgent ultrasound was organized. This revealed a small bowel obstruction which was confirmed on a plain abdominal X-ray. She was urgently transferred to the surgical department and underwent a laparotomy on the same day. Intra-operatively a 1.5 cm fibrotic stenosis of the proximal ileum was noted. 20 cm of the small intestine was resected with end-to-end anastomosis formation, along with an appendectomy. Histology of the resected material showed chronic transmural inflammation with ulcerations and fissures without granulomas. It was highly suspicious of Crohn's disease. A focal lesion of endometriosis was revealed after histological examination of the appendix.

After the operation, she made an unremarkable recovery and was discharged from the hospital after nine days. Two months post-procedure, she underwent treatment for Crohn's disease under gastroenterology care at another facility. No further surgical input was necessary. As she had not further presented to our facility, there was no access to her medical records to observe the disease course. Details about treatment and management by a gastroenterologist at another facility were not available if the endometriosis was investigated further remained unclear as well.

Discussion

The stricturising form of Crohn's disease can have a very insidious onset in the disease course. Despite being on a very strict diet, these patients' symptoms were progressive and significant weight loss. Association of symptoms with food ingestion along with weight loss should raise the suspicion of structural disease (malignancy, anatomical abnormalities of gastrointestinal tract), vascular disease (abdominal angina), malabsorption syndrome (chronic pancreatitis, inflammatory bowel disease, food intolerance, coeliac disease). Disorders of metabolism (porphyria, adrenal insufficiency, hypercalcemia) or chronic infection (e.g., parasites) should have other associated symptoms or abnormalities present and are usually not food-related. Although she was diagnosed with lactase deficiency, she had already eliminated dairy products and gluten weeks before diagnosis.

Moreover, according to the patient's history, it could have been presumed that her troubles are not solely dietary related. The absence of diarrhea and persistent symptoms despite the dietary changes should turn attention to the structural disease-causing mechanical obstruction (malignancy, strictures) or vascular disease (abdominal angina). In addition, endometriosis could cause chronic abdominal pain. On the other hand, such pain is typically not aggravated by food ingestion and should not lead to a progressive weight loss.

History of autoimmune disorder about the current symptoms could raise the suspicion of other immune-modulated diseases, such as

inflammatory bowel disease. Normal findings on gastroscopy, colonoscopy, and plain MRI led in this case to a diagnosis of functional dyspepsia and symptomatic treatment, rather than to more advanced imaging focused on the small intestine and possible organic problem at this part of the gastrointestinal tract. Re-evaluation was recommended only after her presentation with persistent symptoms.

Antibiotic treatment for small intestine bacterial overgrowth is questionable, as this condition can cause abdominal discomfort, chronic pain, and weight loss in severe cases, but diarrhea should be present. There was no change in stool consistency or frequency. Finding of the intestinal stricture along with chronic pain and weight loss is suspicious of Crohn's disease.

Strictures in CD can occur de novo or post-surgery. In most cases (40%–60%), the site of strictures tends to be in the ileal or ileocolonic location. However, it can occur anywhere in the digestive tract [3,4]. In this case, it affected the small intestine. Short obstructions of the small intestine are hard to visualize by common imaging methods. Therefore, symptoms might be present months before significant clinical and radiological findings.

When common first-line imaging methods such as gastroscopy, colonoscopy, or Computed Tomography (CT) can show no pathology in a symptomatic patient, further imaging should be considered, e.g., Magnetic Resonance Imaging (MRI) or CT enterography [5]. Endoscopic enteroscopy is limited to the proximal segments of the small intestine. Our patient had no obvious pathology on CT angiography and plain MR of the abdominal cavity. Therefore, Enterography would be appropriate in these conditions.

Capsule enteroscopy is an imaging method capable of visualizing the small intestine. It is indicated in patients with pathognomonic CD symptoms with negative findings on ileocolonoscopy or radiological imaging [6]. Its main contraindication is proven or suspected obstruction of the gastrointestinal tract [6]. Our patient had negative endoscopy, CT, and plain MRI. However, sole abdominal pain without additional symptoms did not raise suspicion of Crohn's disease. Therefore, this imaging modality might have been considered.

Therapeutic options for the manifestations of stricturing disease comprise endoscopic balloon dilation and surgery. Balloon dilation is limited to favorable anatomic and clinical conditions. The stricture length should be less than 5 cm, and it has to be reachable by the endoscope [7]. Although it can provide immediate relief in most patients, 73% of patients require additional dilatation within two years, and 43% require surgical intervention [7]. However, it is not suitable for secondary complications, such as ileus.

Medical therapy with biologics or immune-suppressants is possible, but not when secondary complications are present [3]. In this case, urgent surgery was necessary, with partial intestinal resection. Bowel resection is favorable over stricturoplasty in CD patients, who are not at risk of short bowel syndrome and intestinal failure [8].

Further follow-up by a gastroenterologist and treatment is necessary, as strictures could develop in different gastrointestinal tract segments.

Conclusions

This case report demonstrates that if first-line imaging methods are inconclusive, more specific imaging should be used to diagnose chronic abdominal pain. Early diagnostics of certain diseases could prevent serious complications. It is better to use all available methods to rule out organic causes before establishing a diagnosis of functional or psychogenic dyspepsia.

Conflict of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. Informed consent was obtained for this publication.

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