Clinical Case Study

Portuguese Journal of Gastroenterology

GE Port J Gastroenterol 2020;27:33–36
DOI: 10.1159/000499767

Received: January 24, 2019
Accepted after revision: March 21, 2019
Published online: May 23, 2019

Duodenal Crohn's Disease Complicated by Pancreatitis and Common Bile Duct Obstruction

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Keywords

Duodenal Crohn's disease · Pancreatitis · Common bile duct obstruction

Abstract

Introduction: Crohn's disease (CD) is characterized by segmental and transmural involvement of any portion of the gastrointestinal tract from the mouth to the anus. Duodenal CD is a rare clinical entity, with the majority of the patients being symptomless – its diagnosis requires a high level of clinical suspicion. ***Case Presentation:*** We present the case of a 29-year-old male patient with a 2-month history of weight loss, epigastric pain and postprandial vomiting. He underwent upper endoscopy, which revealed a circumferential duodenal ulcer causing non-transposable luminal stenosis and was medicated with proton pump inhibitors. While awaiting gastroenterology consultation, he presented at the emergency department for sudden onset of abdominal pain with dorsal irradiation, nausea and vomiting. Laboratory tests showed anaemia and increased liver enzymes, amylase and lipase. Abdominal computed tomography showed ectasia of the common bile duct (CBD) and intrahepatic biliary tract and a small amount of gas in the main pancreatic duct associated with duodenal thickening. The case was interpreted as probable CD complicated by pancreatitis and obstruction of the CBD, and he was hospitalized under antibiotic therapy and hydrocortisone with improvement of the condition. After discharge, he underwent colonoscopy that revealed several ulcers in the ileum and magnetic resonance imaging that showed distension of the stomach with reduction of the calibre of the transition from the duodenal bulb to the second portion of the duodenum in a 10- to 15-mm extension, as well as associated dilatation of the intrahepatic bile ducts and CBD and diffuse and regular ectasia of the main pancreatic duct. Combination therapy with azathioprine and infliximab was initiated; the patient presented clinical response at 12 weeks and endoscopic/imaging remission at 9 months. ***Discussion/Conclusion:*** Hepatobiliary and pancreatic manifestations are common in CD patients involving multiple mechanisms. In this case report, we present a patient with duodenal CD complicated with pancreatitis and CBD obstruction due to distortion phenomena by duodenal stenosis, a condition that is rarely described.

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Doença de Crohn Duodenal Complicada por Pancreatite e Obstrução da via Biliar Principal

Palavras-chave
Doença de Crohn duodenal · Pancreatite · Obstrução via biliar principal

Resumo
Introdução: A Doença de Crohn (DC) é caracterizada pelo envolvimento segmentar e transmural de qualquer porção do trato gastrointestinal desde a boca até ao ânus. A DC duodenal é uma entidade clínica rara, sendo que a maioria dos doentes são assintomáticos – o seu diagnóstico requer um alto grau de suspeição clínica. ***Apresentação do caso:*** Doente do sexo masculino com 29 anos, apresentou quadro com 2 meses de evolução de perda de peso, dor epigástrica e vómitos pós-prandiais. Realizou endoscopia digestiva alta, que revelou úlcera duodenal circunferencial causando estenose luminal não transponível, tendo sido medicado com inibidor da bomba de protões. Enquanto aguardava pela consulta de Gastroenterologia, recorreu ao serviço de urgência por dor abdominal com irradiação dorsal com início súbito, náuseas e vómitos. Os exames laboratoriais revelaram anemia, aumento dos testes hepáticos e aumento da lípase e amílase. A tomografia computadorizada abdominal mostrou ectasia da via biliar principal (VBP) e dos ductos biliares intra-hepáticos e pequena quantidade de gás no ducto pancreático principal associado a marcado espessamento duodenal. Interpretado como provável DC complicada por pancreatite e obstrução da VBP, foi internado sob antibioterapia e hidrocortisona com melhoria clínica. Após a alta, realizou colonoscopia que revelou várias úlceras no íleo terminal e ressonância magnética que mostrou marcada distensão do estômago com redução do calibre da transição do bulbo duodenal para a segunda porção do duodeno em 10–15 mm extensão; associadamente, dilatação dos ductos biliares intra-hepáticos e da VBP e ectasia difusa e regular do ducto pancreático principal. O doente iniciou terapêutica combinada com azatioprina e infliximab apresentando resposta clínica às 12 semanas e remissão endoscópica/imagiológica aos 9 meses. ***Discussão/Conclusão:*** Manifestações hepatobiliares e pancreáticas são comuns em doentes com DC tendo por base múltiplos mecanismos. Neste caso, mostramos um doente com DC duodenal complicada com pancreatite e obstrução da VBP por distorção causada por estenose duodenal, condição raramente descrita.

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Introduction

Crohn's disease (CD) is a multi-systemic disease arising from an interaction between genetic and environmental factors [1]. This disease is characterized by segmental and transmural involvement of any portion of the gastrointestinal tract from the mouth to the anus [2]. Duodenal CD is a clinical entity that occurs in about 0.5–4% of patients [3]. The majority of patients are usually symptomless, but the most common complaints include epigastric pain, nausea, vomiting and weight loss. Differential diagnosis includes peptic ulcer disease, carcinoma, lymphoma, pancreatitis and pancreatic cancer. Diagnosis of duodenal CD requires a high level of clinical suspicion to avoid delayed diagnosis and consequently disease morbidity [2, 3].

Case Report

We present the case of a 29-year-old male patient with a 2-month history of weight loss, epigastric pain and postprandial vomiting. He underwent upper endoscopy, which revealed a circumferential duodenal ulcer causing non-transposable luminal stenosis (Fig. 1a, b). Biopsies revealed an inflammatory infiltrate with polymorphonuclear cells, epithelial erosion, granulation tissue and exudate; *Helicobacter pylori* was negative. The patient denied taking non-steroidal anti-inflammatory drugs.

He was medicated with a proton pump inhibitor and referred to a gastroenterology centre. While waiting for consultation, he presented at the emergency department for sudden onset of abdominal pain with dorsal irradiation, nausea and vomiting. The patient showed no fever and had normal heart rate and blood pressure. Laboratory tests showed haemoglobin 6.8 g/dL, leukocytes 14,960 μL, C-reactive protein 1.03 mg/dL, amylase 188 U/L (3× upper limit of normal [ULN]), lipase 210 U/L (3× ULN), AST 428 U/L (9× ULN), ALT 412 U/L (8× ULN), gamma-glutamyltransferase 277 U/L (4× ULN), alkaline phosphatase 183 U/L (<2× ULN) and total bilirubin 4.06 mg/dL. Abdominal computed tomography showed ectasia of the common bile duct (CBD) and intrahepatic biliary tract and a small amount of gas in the main pancreatic duct associated with duodenal thickening. The pancreas showed diffuse parenchymal enlargement without oedema, retroperitoneal fat stranding, necrosis, collections or calcifications. The case was interpreted as probable CD complicated by mild pancreatitis and obstruction of the CBD due to distortion phenomena, and he was hospitalized with hydration with crystalloid solution, parenteral nutrition, analgesia, antibiotic therapy (ciprofloxacin 500 mg b.i.d.) and corticotherapy (hydrocortisone 200 mg q.d.) with rapid improvement of the condition. After discharge, he underwent colonoscopy that revealed several ulcers in the ileum, conditioning luminal narrowing (Simple Endoscopic Score for Crohn Disease [SES-CD] score 11; Fig. 2a, b). Biopsies showed architectural distortion with inflammatory polymorphonuclear infiltrate. Magnetic resonance (MR) enterography and MR cholangiopancreatography showed marked luminal distension of the stomach with a clear

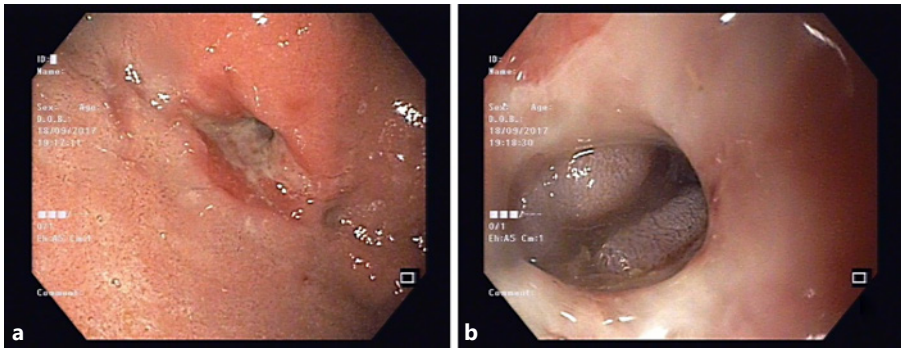

Fig. 1. Upper endoscopy showing circumferential duodenal ulcer causing non-transposable luminal stenosis.

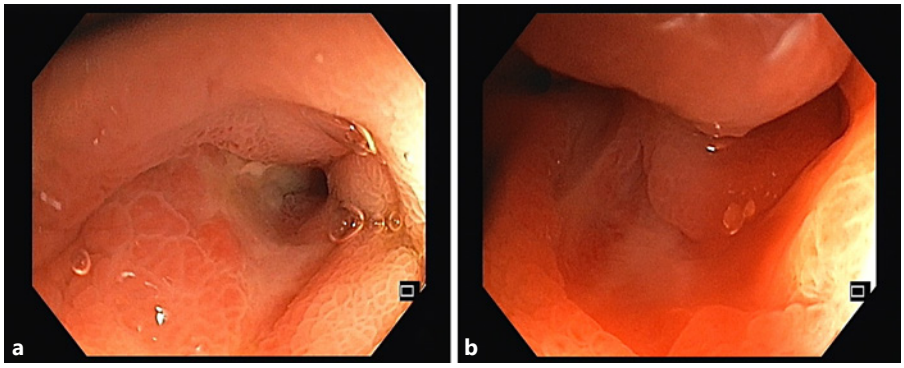

Fig. 2. Colonoscopy showing ulcers in the terminal ileum, conditioning luminal narrowing.

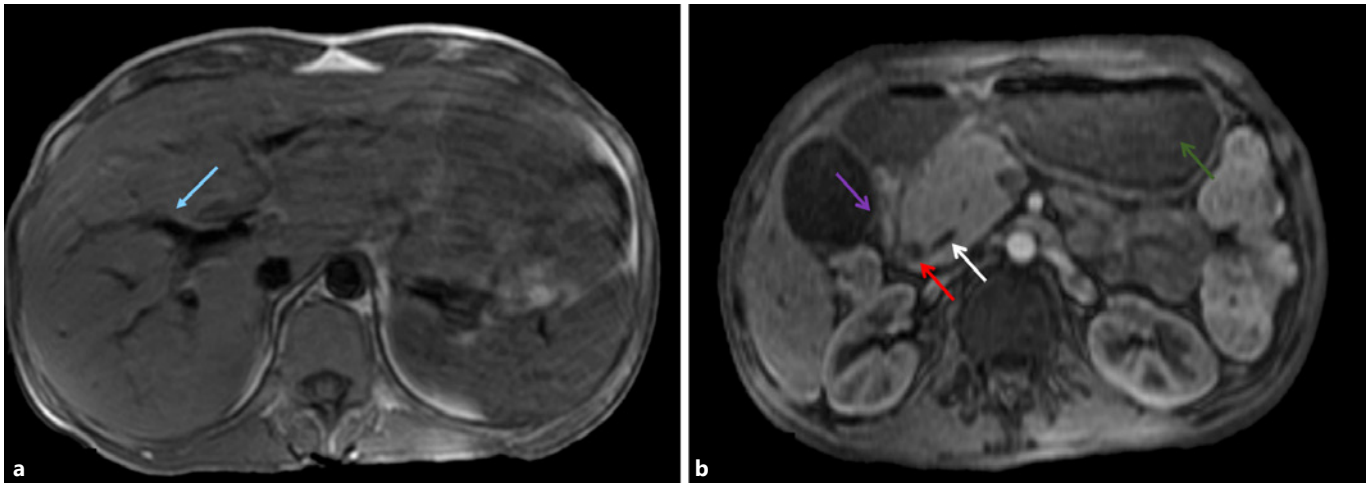

Fig. 3. MRI showing dilation of the intrahepatic bile ducts, CBD and main pancreatic duct, findings related to the notorious architectural distortion present in the duodenal region. Blue arrow, dilated intra-hepatic duct; white arrow, main pancreatic duct; red arrow, common bile duct; green arrow, stomach; purple arrow, duodenum.

reduction in the calibre of the transition from the duodenal bulb to the second portion of the duodenum in a 10- to 15-mm extension, as well as associated dilatation of the intrahepatic bile ducts and CBD and diffuse and regular ectasia of the main pancreatic duct, findings related to the notorious architectural distortion present in the duodenal region (Fig. 3a, b). There were no signs of disease activity on MR imaging (MRI) in the small bowel and colon. Follow-up laboratory tests showed fluctuating levels of liver enzymes, and immunoglobulin (Ig)G4 was normal (16.5 mg/dL). The diagnosis of duodenal and ileal stenosing CD was made (Montreal Classification A2L1 + L4B2), and it was decided to initiate combination therapy with azathioprine and infliximab. Pre-biologic screening tests showed a chronic hepatitis B infection with negative HBeAg, so entecavir was initiated 2 weeks before immunosuppression.

The patient presented clinical response at 12 weeks of combination therapy and endoscopic/imaging remission at 9 months (upper endoscopy with duodenal stenosis but without ulceration and MRI with stenosis without parietal oedema or contrast enhancement and only mild CBD ectasia [7 mm]).

Discussion/Conclusion

Hepatobiliary and pancreatic manifestations constitute some of the most common extra-intestinal manifestations of IBD [4, 5]. The aetiology of these manifestations in CD seems to be multifactorial and involves multiple mechanisms, such as drugs, gallstones, sclerosing cholangitis, IgG4-associated cholangiopathy and idiopathic causes [4].

In this case report, we present a case of duodenal CD complicated with pancreatitis and CBD obstruction due to distortion phenomena by duodenal stenosis, a condition that is rarely described. The hypothesis is (a) that duodenal stenosis leads to increased intraduodenal pressure and reflux of duodenal contents to the pancreatic/biliary tract or (b) that there is an involvement of the ampulla of Vater [4]. This second hypothesis could not be confirmed since the patient had a non-transposable stenosis. Treatment with corticosteroids as induction therapy was initiated to reduce duodenal inflammation and, consequently, inflammation in the pancreatic and biliary ducts. Since there were signs of obstruction of the CBD with dilation and increased cholestasis according to laboratory tests, empiric antibiotics were also initiated to prevent cholangitis.

To date, there are no prospective treatment studies of duodenal CD due to the low incidence of disease [2]. Our patient achieved clinical and endoscopic remission with combination therapy with azathioprine and infliximab for 9 months, with concomitant resolution of pancreatic and CBD symptoms and findings.

Statement of Ethics

An informed patient consent was obtained for publication of the case details.

Disclosure Statement

The authors have no conflicts of interest to report.

Funding Sources

There was no funding.

Author Contributions

M.S. wrote de manuscript; L.P., J.C.S., A.C.R.G. and J.C. reviewed the manuscript.

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