Case Report

Acute pancreatitis as an initial presentation of Crohn's disease: A case report

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Abstract

Acute pancreatitis (AP) is not commonly known to be an extra-intestinal manifestations of Crohn's disease (CD). Several cases have been reported discussing the relation of AP with CD. However, no specific etiological factors for pancreatitis were found, which appears to support the possibility of a relationship between AP and CD. We report a 30-year-old male present with generalized abdominal pain associated with watery diarrhea. Diagnosis of AP was made. A CT abdomen showed pancreatic inflammation with a terminal ileum thickening. Colonoscopy with multiple biopsy was done for the patient, which confirmed the diagnosis of CD. The patient started on adalimumab for 6 months, showed good response, and became symptomatically free. No recurrent attacks after 2 years of follow-up. The association between AP and CD is not yet clear. Therefore, patients presenting with idiopathic pancreatitis should be investigated to rule out the coexistence of IBD for better outcome.

Keywords: Acute pancreatitis, autoimmune pancreatitis, Crohn's disease, extra-intestinal manifestation, inflammatory bowel disease

Introduction

Crohn's disease (CD) has many established extra-intestinal manifestations; however, acute pancreatitis (AP) is not commonly known to be among them.[1] Several cases have been reported discussing the relation of AP with CD. In these cases, no specific etiological factors for pancreatitis were found, which appears to support the possibility of a relationship between AP and CD.[1] A retrospective case series study done in Israel over a 10-year period found that only 2.17% of pediatric patients and 0.06% of adult patients presented with AP as first presentation of inflammatory bowel disease (IBD).[2] Understanding the relationship between the two disease entities is vital to successful management of patients presented with both conditions. We report here a case of acute pancreatitis presenting as the first extra-intestinal manifestation of CD.

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Case History

This is a case of a 30-year-old male who presented with a 2-week history of watery diarrhea associated with generalized abdominal pain. On physical examination, there was epigastric tenderness. Laboratory results showed that lipase and amylase levels were three times above the upper limit of normal (lipase >2000 U/L, amylase 971 U/L), and a C-reactive protein level of 68.2 mg/dl [Table 1]. Viral and autoimmune studies were normal. Abdominal ultrasound and magnetic resonance cholangiopancreatography (MRCP) findings were unremarkable. Diagnosis of AP was made.

A computed tomography (CT) scan showed terminal ileum thickening [Figure 1]. A colonoscopy was then done for

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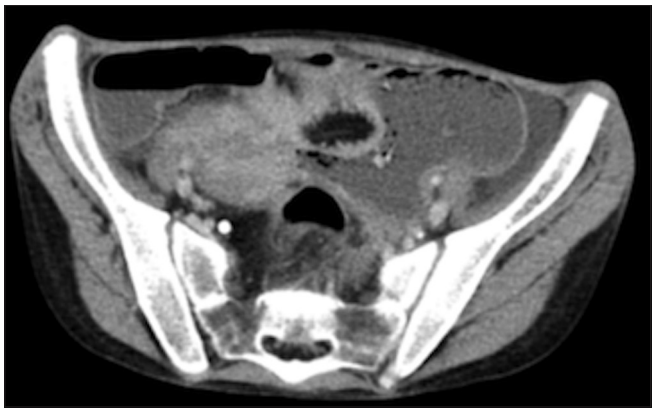

Figure 1: CT scan of a terminal ileum thickness

Table 1: Laboratory Results Upon Admission

Test	Result
White blood count	7.5 k/ul (normal 4.0-11)
Hemoglobin	13.3 g\dL (normal 12.0-16.0)
Amylase	971 U/L (normal 30-110)
Lipase	>2000 U/L (normal 73-393)
Total bilirubin	0.9 mg/dL (normal 0.2-1.3)
Direct bilirubin	0.2 mg/dL (normal 0.0-0.4)
Aspartate Aminotransferase	15 U/L (normal 17-59)
Alanine aminotransferase	23 U/L (normal 21-72)
GGT	21 U/L (normal 15-73)
Calcium	8.7 mg/dL (normal 8.4-10.2)
Triglycerides	57 mg/dL (normal<150)
C-Reactive protein	68.2 mg/dl (normal 0-10)
IgG4	0, 450 g/L (normal 0, 864)

the patient, which revealed moderate inflammation in the terminal ileum [Figure 2]. Multiple biopsies were taken, and the histopathological features were consistent with CD of mild-to-moderate disease activity. Treatment was started with an induction dose of 160 mg subcutaneous adalimumab (HUMIRA®), then 40 mg subcutaneously every 2 weeks for 6 months. Since the onset of treatment, he reported good response and became symptomatically free. No recurrent attacks after 2 years of follow-up.

Discussion

Multiple factors may affect the occurrence of AP in CD, including medications used for treatment of the disease itself.[3] In this case, factors that may trigger AP were investigated and excluded such as alcohol intake, biliary causes, hypertriglyceridemia, hypercalcemia, viral causes, and medications.

Several theories have been suggested to explain the pathophysiology of AP in CD. For example, in cases of duodenal CD, AP is most likely due to duodenal-pancreatic duct fistulas.[4] When there is no duodenal involvement, autoimmune causes were suggested to contribute to the occurrence of pancreatitis in CD.[5] There has been a reported prevalence of autoantibodies against the exocrine glands of the pancreas in 20–30% of

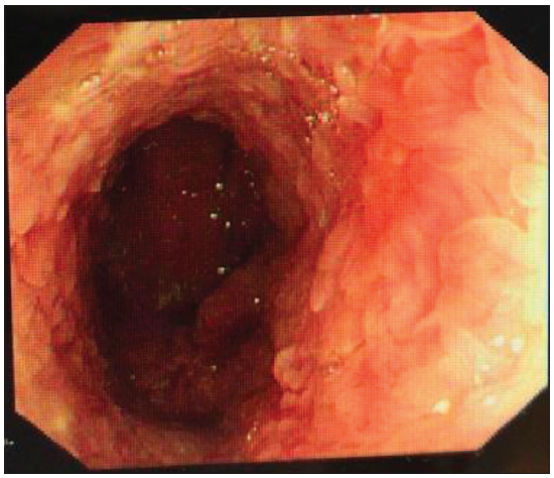

Figure 2: Colonoscopy; inflamed terminal ileum

CD patients.[6] However, evidence that links the presence of autoantibodies and pancreatitis development in CD patients is still lacking.[1]

Autoimmune pancreatitis (AIP) is another distinctive disease of pancreatic involvement, classified to type 1 and type 2. Although both types are under the same disease entity, it's been noticed that type 2 has more strong association with IBD, being AP as the common case presentation of type 2 AIP.[7]

The diagnosis of type 1 AIP depends on the serological level of IgG4, whereas type 2 needs to be confirmed by histopathological samples, as there is no definitive serological marker for it.[7] Nevertheless, the absence of increased IgG4 levels, such as in our case, makes it difficult to confirm the diagnosis of AIP, and because no pancreatic tissue biopsy was taken, type 2 could not be confirmed either.

After reviewing several studies, it can be suggested that AP, although rare, can present as the first manifestation of CD.[8,9] According to a recent literature review, it has been recommended to manage patients with pancreatitis related CD with infliximab as well as periodic gallstone screening.[1] In our patient, adalimumab was used as it was available. There is no evidence to suggest against its use, both drugs are known to have a similar response and are effective in achieving maintenance.[10] It gave good results in terms of symptom resolution and disease activity control. We believe either one of these drugs can be used in such presentation.

Conclusion

The association between AP and CD is not yet established. Therefore, as primary care physician, we have to be aware about all rare presentations of IBD. Thorough examination and investigation is crucial in all patients presenting with idiopathic pancreatitis to rule out the coexistence diseases, as it will help to conduct the right management. This case report supports the hypothesis that AP can precede the clinical manifestations

of underlying IBD. Further studies need to be conducted to confirm this relationship.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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