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Acute pancreatitis: Manifestation of acute HIV infection in an adolescent

Anas Bitar, Muhammad Altaf, Thomas J. Sferra

Department of Pediatrics, Section of Gastroenterology and Nutrition, University of Oklahoma Health Science Center, Oklahoma City, OK, U.S.A.

Summary

Background:

Pancreatitis in the pediatric age group is not as common as in adults. Etiologies are various and differ from those in adults. Although infectious etiology accounts for a significant number of cases of pancreatitis, acute infection with Human Immunodeficiency Virus (HIV) was rarely reported as a possible etiology for acute pancreatitis in adults. Acute pancreatitis has never been reported as a presenting manifestation of acute HIV infection in children.

Case Report:

We describe a pediatric patient who presented with acute pancreatitis that revealed acute HIV infection.

Conclusions:

Acute pancreatitis as a primary manifestation of HIV infection is very rare. It may represent an uncommon aspect of primary HIV infection. We suggest that acute HIV infection should be considered in the differential diagnosis of acute pancreatitis at all ages.

key words:

acute pancreatitis • acute HIV infection • clinical manifestation • adolescent

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Author's address:

Anas Bitar, University of Oklahoma Health Science Center, Department of Pediatrics, Section of Gastroenterology and Nutrition, 1200 N. Phillips Ave, Suite 9500, Oklahoma City, OK 73104, U.S.A., e-mail: anas-bitar@ouhsc.edu

BACKGROUND

Acute pancreatitis is a necroinflammatory disease of the pancreas. Primary HIV infection, also known as acute HIV syndrome, is the period from initial infection with HIV to complete seroconversion [1]. Pancreatitis is uncommon in children and adolescents, and the causes are more varied than in adults. Trauma, systemic diseases, drugs, and biliary tract disease (e.g. cholelithiasis) account for most identified causes. Systemic and metabolic disorders, anatomical variants, and infection are less common causes. A variety of infectious organisms account for a significant number of cases of pancreatitis worldwide, including bacteria, parasites, and viruses [2–4]. Uncommon causes must be considered in the evaluation of children and adolescents presenting with pancreatitis. Pancreatitis as a primary manifestation of HIV infection is very rare [5–9]. Here, we present the first pediatric case of primary HIV infection manifesting as acute pancreatitis. Acute HIV infection should be considered in the differential diagnosis of acute pancreatitis at all ages.

CASE REPORT

A 17-year-old African American male presented to the emergency room with a 1-week history of epigastric pain, non-bloody and non-bilious emesis, and fever (39.4°C). He had no history of abdominal trauma, hyperlipidemia, gallbladder disease, sickle cell disease, or exposure to drugs. He denied the use of alcohol, tobacco, and illicit drugs. He was a sexually active homosexual male who had been with one partner for the past year. Physical examination demonstrated generalized (cervical, axillary, and inguinal), non-tender lymphadenopathy and epigastric tenderness. Laboratory data was remarkable for elevated serum amylase (219 U/L) and lipase (808 U/L) in addition to lymphopenia (760 cell/microliter). Abdominal ultrasound demonstrated edema of the pancreas with no evidence of cholelithiasis. Serum triglyceride level was normal and urine drug screen was negative.

The patient was hospitalized with a diagnosis of acute pancreatitis. He was conservatively managed (nothing by mouth, aggressive intravenous hydration, and pain control). Serological tests for Epstein-Barr virus, cytomegalovirus, and herpes simplex virus 1 and 2 were negative. Serum tests for hepatitis (A, B, and C) were negative. HIV enzyme-linked immunosorbent assay (ELISA) was negative twice. T-cell studies revealed low absolute CD4 lymphocyte count of 141.3 cells/microliter (18.6%), and inversion of the CD4/CD8 ratio of 0.40. Because of the presence of HIV risk factors, serum HIV-RNA levels were measured and found to be greater than 6.0 log₁₀ copies/ml.

The patient was diagnosed with a primary HIV-1 infection. On day 10 of hospitalization, the patient was discharged home. Laboratory values at discharge revealed serum amylase of 484 U/L and serum lipase of 2376 U/L (peak lipase was 3179 U/L on the sixth hospital day). Ten days after being discharged, antiretroviral therapy with Atripla (combination of Efavirenz, Emtricitabine, and Tenofovir) was initiated. At a six-week (post discharge) follow-up evaluation, the pancreatitis resolved with normalization of the pancreatic enzyme levels and a fall in the HIV-1 RNA levels to 2.76 log₁₀ copies/ml.

DISCUSSION

The most common presentation of acute HIV infection, although no clinical symptoms have sufficient sensitivity or specificity, is “mononucleosis-like” illness with fever, lymphadenopathy, pharyngitis, rash, and headache. Gastrointestinal symptoms are mainly oral ulcers, nausea, vomiting, and diarrhea [1,10]. Pancreatitis is frequent in the course of pediatric HIV-infection but has never been reported as a presenting manifestation of acute HIV infection in children [11].

Primary HIV infection associated with acute pancreatitis has been only reported previously in seven cases in adults. The episodes of acute pancreatitis had resolved before antiretroviral therapy in five of these patients. A reason for deferring antiretroviral therapy was continued elevations in serum lipase [6–10]. To the best of our knowledge, this is the first reported case of primary HIV infection manifesting as acute pancreatitis in the pediatric age group. The acute pancreatitis in our patient also started resolving before antiretroviral therapy. The etiology of pancreatitis in the course of HIV infection is not always clearly defined but it may be multifactorial including infections and therapeutic drugs [11]. Our case report in addition to previous cases suggest that acute pancreatitis can be due to direct invasion of the pancreas by HIV.

CONCLUSIONS

There should be lower threshold for suspecting HIV infection in patients with acute pancreatitis, especially in the presence of mononucleosis-like illness or HIV risk factors. HIV infection can be missed in the context of acute pancreatitis because the later may resolve without antiretroviral therapy. The diagnosis of primary HIV infection can be made by positive virologic test (e.g. plasma HIV RNA) with a negative HIV antibody test.

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