

Acute pancreatitis: An initial presentation of systemic lupus erythematosus

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Acute pancreatitis is a rare, but fatal, manifestation of systemic lupus erythematosus. Only 10 systemic lupus erythematosus-associated pancreatitis cases were found in a search of published articles. We report a 24-year-old woman without significant medical history, who was admitted with abdominal pain, nausea and vomiting, which was diagnosed as pancreatitis. It was discovered to be the initial presentation of systemic lupus erythematosus. The first time she was admitted, she recovered with conservative management and steroid therapy. Two months later, she was readmitted to our hospital with symptoms and signs of acute abdomen, which was attributed to her discontinuation of the therapeutic regimen with corticosteroids just after her previous discharge. She underwent laparotomy twice for signs of peritonitis. Despite administration of a monoclonal antibody, rituximab, she died due to the progression of systemic lupus erythematosus activity.

Key words: Acute pancreatitis, systemic lupus erythematosus, manifestation, fatal

Akut pankreatit: Sistemik lupus eritematosus'un ilk bulgusu

Akut pankreatit, sistemik lupus eritematosus'un nadir görülen ancak ölümcül olan bir komplikasyonudur. Literatürün taramasında sadece 10 sistemik lupus eritematosus ilişkili pankreatit vakası bildirildiği tespit edilmiştir. Burada, önemli bir klinik hikayesi olmayan, karın ağrısı, bulantı ve kusma ile başvuran ve pankreatit tanısı alan 24 yaşında kadın hasta sunuldu. Bu tablonun sistemik lupus eritematosus'un prezentasyon bulgusu olduğu tespit edildi. İlk başvurusunda konservatif yöntemler ve steroid ile tedavi edildi ve iyileşme sağlandı. İki ay sonra, hasta tekrar akut abdomen bulguları ile hastaneye başvurdu ve durumun hastanın kendisinin steroid tedavisini bir önceki taburculuğundan hemen sonra kesmesine bağlı olduğu düşünüldü. Peritonit nedeni ile iki kez laparotomi uygulandı. Rituximab monoklonal antikoruna uygulamasına rağmen sistemik lupus eritematosus aktivitesinde ilerleme nedeni ile hasta kaybedildi.

Anahtar kelimeler: Akut pankreatit, sistemik lupus eritematosus, belirti, ölümcül

INTRODUCTION

Acute pancreatitis is a rare appearance of systemic lupus erythematosus (SLE), but it can often be fatal, especially in childhood (1,2). It is estimated that the annual incidence of lupus-associated pancreatitis is 0.4–1.1 per 1000 lupus patients. Seventy-seven cases of lupus-associated pancreatitis were found in published case reports up to 2006,

and in 10 patients, pancreatitis was an early manifestation of SLE (3). The exact pathogenic mechanisms of pancreatitis in SLE patients is unclear, but vasculitis, microthrombi secondary to antiphospholipid antibodies, intimal thickening, drugs, and a generalized serositis have been discovered in the pathogenesis (4,5). Pancreatitis usu-

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ally occurs in those patients with known cases of SLE (6), though in rare cases it can be seen as the initial presentation (7,8).

We report a 24-year-old woman without significant medical history admitted for abdominal pain, nausea and vomiting, which was ultimately discovered to be the initial presentation of SLE.

CASE REPORT

A 24-year-old woman presented to the emergency room with abdominal pain, nausea and vomiting. She also reported a history of laparotomy twice in the past three months due to acute abdomen. In the first laparotomy, she had received treatment for a diagnosis of endometriosis, and two months later, she had undergone a second laparotomy and had complained of ascites and acute abdomen before being referred to our hospital.

On her first visit, she had ascites and abdominal guarding without rebound tenderness. There were no skin or mucosal lesions and no abnormal findings on joint examination. In her medical history, thrombocytopenia at eight years of age was notable. She had received corticosteroids for one year at the age of nine after an immune thrombocytopenic purpura (ITP) diagnosis. She denied alcohol and illicit drug use, and had never taken any recreational drugs.

Her previous laboratory studies disclosed the following findings: white blood cell (WBC) 7900/m³ (PMN 80%), hemoglobin (Hb) 8.1 g/dl, platelet 203,000/m³, fasting blood sugar 105 mg/dl, blood urea nitrogen (BUN) 12 mg/dl, creatinine 1 mg/dl, aspartate aminotransferase 58 U/L (normal 14–40 IU/L), alanine aminotransferase 90 U/L (normal 15–40 U/L), alkaline phosphatase 153 IU/L (normal 36–306 IU/L), protein 4.9 g/dl, lactate dehydrogenase (LDH) 685 U/L, sodium 135 mEq/L, and potassium 2.6 mEq/L.

Pancreatic enzyme determinations showed an amylase level of 350 U/L (normal <100 U/L). On urinalysis, cloudy urine with a white cell count of 25–30 per high-power field (HPF) without casts was found. Urine culture was negative.

The patient was admitted to our hospital for further evaluation. On admission, laboratory evaluation showed WBC 6400/m³ (PMN 90%), Hb 6.5 g/dl, platelet 167,000/m³, reticulocyte count 1.1%, BUN 16 mg/dl, creatinine 1.8 mg/dl, sodium 149 mEq/L, potassium 3.3 mEq/L, serum amylase 1240 U/L (normal: <100 U/L), and serum lipase 420 U/L

(normal: <60 U/L). Blood culture was negative. Her 24-hour protein value was 2000 mg/24 hour (normal: <150 mg/24 hour) human immunodeficiency virus (HIV)-antibody-negative. Following a diagnosis of acute pancreatitis, treatment was started with intravenous (IV) fluids and nasogastric suction and suitable antibiotics.

Immunological studies showed anti-nuclear antibody (ANA) >12 (positive: >1.5), anti-ds-DNA >240 (positive: >25), anticardiolipin antibody (ACLA): normal, lupus anticoagulant: normal, and beta-2 glycoprotein: normal. Analysis of ascitic fluid paracentesis disclosed the following values: glucose 98 g/dl, protein 3.1 g/dl, amylase 1250 U/L, LDH 420 U/L, WBC 120/m³, red blood cell (RBC) 220/m³, and lipase 1450 U/L. Ascitic fluid culture showed no pathogenic bacteria.

Sonography of the abdomen was normal. An echocardiogram showed mild pericardial effusion and an ejection fraction of 65%. In the endosonography, no abnormality was found in her liver, pancreas or biliary tract, and color Doppler sonography of the portal veins was normal.

Systematic lupus erythematosus (SLE) was diagnosed, and treatment was initiated with pulse therapy of methylprednisolone 750 mg/day for 3 days and IV Endoxan 700 mg. The patient had good response to this regimen and was discharged with general well-being after one week.

Two months later, she was readmitted to our hospital with symptoms and signs of acute abdomen, which was attributed to her discontinuation of the therapeutic regimen with corticosteroids just after her previous discharge.

Laboratory studies at the time were as follows: WBC 10500/m³, Hb 8.5 mg/dl, platelet 45000/m³, sedimentation rate 56/1 hour, serum amylase 478 U/L (normal: <100 U/L), and serum lipase 102 U/L (normal: <60 U/L). Urinalysis showed no abnormal findings. Anti ds-DNA was in the normal range.

A spiral computed tomography (CT) scan of the abdomen with or without contrast revealed an enlarged and edematous pancreas with adjacent bowel loop edema. A cystic lesion in the pancreatic tail (pseudocyst) was found (Figure 1). The patient had normal findings on magnetic resonance (MR) cholangiopancreatography five days later.

Intravenous (IV) fluids and nasogastric suction were initiated. IV metronidazole and meropenem

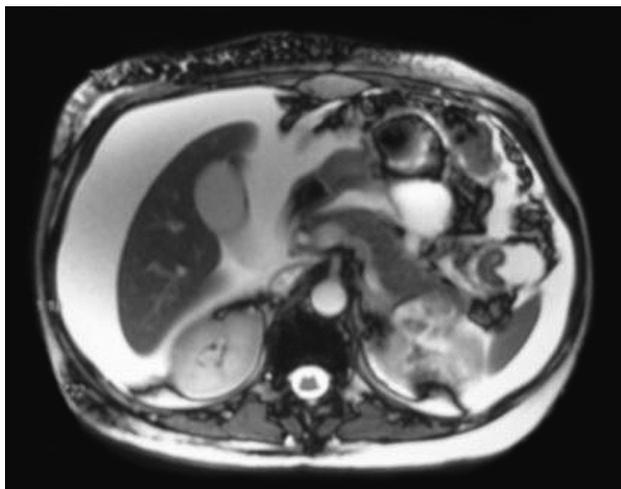


Figure 1. Edematous pancreas with cystic lesion in the pancreatic tail (pseudocyst).

were initiated as well. Despite supportive treatment, the patient did not show any clinical improvement. Consequently, methylprednisolone 500 mg for 3 days and cyclophosphamide 700 mg were prescribed. She did not respond to this regimen. Three days later, a laparotomy was done for the first time in our hospital for signs of acute abdomen. In the course of the laparotomy, an inflamed pancreas and saponified ascitic fluid were observed, and a cholecystectomy was done due to recurrent pancreatitis according to up-to-date recommendations (9). Then, total parenteral nutrition (TPN) was started. Three days later, ascitic fluid paracentesis disclosed WBC 30000/m³ (PMN 90%), RBC 35000/m³, amylase 55350 U/L, LDH 42810 U/L, and negative microbiological study.

Another laparotomy was performed because of the continuation of symptoms and lack of response to steroid pulse therapy. In the second laparotomy done in our hospital, necrosis of the colon in the splenic flexure was observed. After debridement of the necrotic tissue, a colostomy was performed.

Eight days after the colostomy, IVIg 400 mg/kg for 3 days was administered because of decreased platelets. The patient did not respond to this regimen and because of the continuation of her symptoms and thrombocytopenia in the range of <10000/mm³, rituximab 500 mg stat. was prescribed one week after using IVIg. Despite administration of specific drugs and conservative management, the patient lapsed into coma and respiratory distress, and eventually died.

DISCUSSION

Our case showed acute pancreatitis as an early manifestation in the setting of SLE. SLE is a multisystem disease with involvement of the gastrointestinal system and with the recurrent complaint of abdominal pain (6). Although acute pancreatitis is a rare complication of SLE in both active and quiescent disease (5), with a frequency of about 0.2%–8.2% of patients with a generalized flare of SLE (10), only 10 cases have been reported in which pancreatitis was the initial manifestation of SLE (11), an often deadly complication, especially in childhood (2).

Pancreatitis in the setting of SLE was first reported by Reifstein (12). A diagnosis of SLE pancreatitis can be made only after the exclusion of other causes of acute pancreatitis, such as alcoholism and gallstones, which are the two most common causes in the United States. Viral causes such as in HIV and acquired immunodeficiency syndrome (AIDS) are considered in immunocompromised patients (6). Many cases of acute pancreatitis in SLE will continue to be related to non-SLE factors such as alcohol abuse and hepatobiliary disease, as well as to medications such as corticosteroids, diuretics and azathioprine, which are commonly used in these patients; however, for a subgroup of patients, no identifiable cause can be found, and these are the cases in which it is postulated that their acute pancreatitis is related to underlying SLE. We found no definite cause of acute pancreatitis in our case.

In a study done on asymptomatic SLE patients, hyperamylasemia was found in 30.5% of cases, suggesting that subclinical pancreatic damage might occur frequently in SLE (13). Pathogenic mechanisms such as microthrombi, vasculitis, intimal thickening, and drugs have been reported, although the exact mechanism has not been revealed as yet (4,14).

Mortality in patients with acute pancreatitis in the general population is correlated with hypocalcemia, hyperglycemia, and renal and liver dysfunction, including elevated blood urea and liver enzymes (15). In reported SLE-associated pancreatitis, the mortality rate was 45% compared with only 3% in SLE patients without pancreatitis. It is demonstrated that lupus activity is notably associated with increased mortality. (3). Our patient died due to progressive lupus activity, despite administration of a monoclonal antibody, rituximab.

Treatment for acute pancreatitis in patients with SLE should include discontinuation of any drugs that may induce pancreatitis, maintaining nothing by mouth and IV hydration. The treatment of SLE pancreatitis is with steroids. Administration of steroids is somewhat controversial, as steroids have been implicated as a cause of SLE pancreatitis (7). Recent studies have shown that the toxic effect of steroids on the pancreas is probably negligible, whilst their immunosuppressive effect is essential for the improvement of the pancreatitis (3). Since the mortality rate of sterile acute necro-

tizing pancreatitis is 10%, laparotomy with adequate drainage and removal of necrotic tissue should be considered, as conventional therapy does not halt the patient's deterioration (16).

We conclude that although SLE-associated acute pancreatitis is uncommon, because of its potentially fatal outcome (18 to 27% mortality), it should be suspected in any SLE patient with abdominal pain. It should also be remembered that SLE patients may develop pancreatitis secondary to non-SLE-related causes, such as biliary stones or alcohol ingestion.

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