Case Report

Acute Pancreatitis Associated with Milk Allergy

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Summary

We are reporting the case of a 23-yr-old patient who had recurring episodes of acute pancreatitis characterized by the typical abdominal pain, elevated serum levels of pancreatic enzymes, and enlargement of the pancreas and edema on sonogram. These episodes were accompanied by facial erythema with conjunctival injection, generalized pruritus, diarrhea, and eosinophilia, and they were induced by the consumption of milk. The serum levels of IgE specific to cow milk proteins and to beta-lactoglobulin were increased. We suggest that these episodes are caused by a milk allergy (milk), that has been described as an unusual cause of acute pancreatitis.

Key Words: Milk allergy; acute pancreatitis; abdominal pain; IgE specific.

Introduction

Allergy as a cause of acute pancreatitis is very rare (1). Such an etiology has been known since 1933, when Couvelaire and Gregoire (2,3) reproduced a case of acute pancreatitis in dogs after causing an anaphylactic shock during an experiment. In humans, isolated cases probably caused by allergy have been described, almost always in connection with the taking of drugs (4). Secondary acute pancreatitis because of milk allergy is rare and in the literature three cases of acute pancreatitis apparently resulting from this etiology have been reported (5,6). We present a case of recurring acute pancreatitis probably related to milk protein allergy.

Patients

A 23-yr-old patient, with a past history of allergie rhinoconjunctivitis, was treated during childhood with immunotherapy. There were no previous references to alcoholism, drugs, or diabetes mellitus. Twelve hours before coming to the hospital, he experienced severe abdominal pain in the epigastrium accompanied by generalized pruritus after drinking a glass of milk, all of which remitted spontaneously 2 h later. The next morning, 10–15 min after drinking a glass of milk, he began to suffer another attack of severe upper abdominal pain accompanied by nausea and vomiting, facial erythema, generalized pruritus, and diarrhea. On physi-
Laboratory testing on admission revealed that hematocrit was 49.4%; leukocytes were 16,000/mm³, with 52% neutrophils, 30% eosinophils, 14% lymphocytes, and 4% monocytes. The mean corpuscular (MCV) was 92 μm³. The platelet count was 274,000/mm³. Serum amylase was 2061 U/L (N = 0–220), amylase P₂ was 83% (N = 26–58%), P₃ 17%. Serum lipase was 921 U/L (N = 10–200); urea nitrogen, 10 mg/dL; glucose, 103 mg/dL; creatinine, 1.14 mg/dL; AST, 11 U/L; ALT, 27 U/L; LDH, 262 U/L; Na, 139 mEq/L; K, 3.7 mEq/L; calcium, 10 mg/dL. Prothrombin activity was 92%, fibrinogen 246 mg/dL. Total bilirubin was 0.93 mg/dL, alkaline phosphatase was 208 U/L, triglycerides were 71 mg/dL, uric acid 7.5 mg/dL, total proteins 59 gr (albumin 37.7 gr and globulins 21.3 gr)/L. Urine amylase was 3,968 U/L (N = 100–710). Chest and abdomen X-ray was normal. Abdominal sonogram revealed a moderately enlarged and hypoechoic pancreas. IgE specific to cow milk (RAST) was 2.17 KU/L (N = 0–0.35); IgE to beta-lactoglobulin, 3.5 (N = 0–0.35).

Cutaneous tests for whole milk and beta-lactoglobulin were positive. The Weinberg test was negative and parasite investigation in the stool was negative.

The patient was treated with a light diet, intravenous fluids, antacids, and analgesics, and improved clinically in 36 h, which is why a progressive oral tolerance diet (without milk) was begun with favorable results. On his seventh day in the hospital, 15 min after reintroducing milk, he began to experience a new episode of abdominal pain similar to the one that had caused his admission, with facial exanthema, conjunctival injection, and generalized pruritus, an increase in leukocyte count to 11.7 × 10⁹/mm³, with manifest eosinophilia (32%) and elevated amylase serum levels (770 U/L). The cutaneous manifestations disappeared following a subcutaneous injection of 5 mg of chlorpheniramine maleate.

The patient was treated the same as before, had a favorable outcome, and was discharged 7 d later. He was told to withdraw milk and milk products from his daily diet; and the patient has remained free of symptoms until this day. Three weeks later an endoscopic retrograde cholangiopancreatography (ERCP) showed normal pancreatic ducts and biliary tract.

**Discussion**

On review of the literature, we have found three documented cases of acute pancreatitis resulting from food allergy. In 1963, Boquien and Blain (5) reported the case of a 37-yr-old man who suffered recurring acute episodes of abdominal pain accompanied by asthma, urticaria, and hyperamylasemia after fish consumption. In 1990, Matteo and Sarles (6) reported two cases, presumably attributable to food allergy characterized by abdominal pain, headaches, myalgia, and urticaria, with hyperamylasemia after the consumption of certain foods.

The allergens involved were meat, milk, eggs, and fish (6,7).

Much more frequently there have been references to cases of acute pancreatitis probably caused by allergy owing to drugs, such as azathioprine (8), 6-mercaptopurine (9,10), salazosulfapyridin (11,12), sulfamethoxazole-trimethoprim (13), and sulindac (14,15).

The complement system has been implicated in the pathogenesis of acute pancreatitis. Consequently, Seelig (16,17), continuing Thal’s work (18), experimentally induced acute necrohemorrhagic pancreatitis by injecting IgG into the pancreatic ducts of sensitized mice, attributing these lesions to the formation of immune complexes through activation of the serum complement.

Eosinophilic infiltration of the pancreas (20,21) has rarely been described in the literature as a probable manifestation of a digestive allergy. Flejou et al. suggest that the allergic mechanism (21) might be responsible, based on a past history of allergy, histopathological findings, and increases in IgE serum levels.

We have made a diagnosis of acute pancreatitis because of the presence of abdominal pain, the marked increase in serum amylase, and the enlargement of the pancreas on sonogram.

The favorable outcome of the episode after pancreatic rest and elimination of the milk allergy fac-