Acute Pancreatitis: An Uncommon Cause of Acute Renal Failure in a Renal Transplanted Patient

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ABSTRACT

In renal transplant patients, acute pancreatitis is an unusual complication and mortality and morbidity of it is much higher than that of normals. Six years after transplantation, a 22-year-old man developed acute pancreatitis due to bilier lithiasis and acute renal failure. His condition improved dramatically with conservative theraphy and his renal function regressed to baseline levels. Elective cholecystectomy was performed three weeks later. We discussed the side effects of immunosuppressive drugs regarding acute pancreatitis and to highlight the beneficial effect of gallstone screening in renal transplanted patients.

Keywords: Renal transplantation, acute pancreatitis, gallstone, cyclosporine

ÖZET

Renal transplantasyonlu olgularda, akut pankreatit nadir görülür ve normal popülasyona oranla daha yüksek mortalite ve morbiditeye sahiptir. Yirmi iki yaşında erkek hastada, renal transplantasyondan 6 yıl sonra bilier lithiasis nedeni ile akut pankreatit ve akut böbrek yetersizliği gelişti. Konservatif tedavi ile durumu düzelen olgunun renal fonksiyonları bazal değerlere geriledi. Üç hafta sonra elektif kolesistektomi yapıldı.

Burada, immunosüpresif ilaçların akut pankreatit etiyolojisindeki rollerini ve renal transplantasyonlu olgularda safra kesesi taşlarının incelenmesi gereğini tartıştık.

Anahtar kelimeler: Renal transplantasyon, akut pankreatit, kolelityasis, siklosporin

Nefroloji Dergisi 2004;13 (3) 180-181

Introduction

Acute pancreatitis is a rare complication in the post transplantation period. In immunosuppressed patient, the mortality of pancreatitis is higher and the prognosis is more severe than normal population (1). The risk factors for acute pancreatitis in transplanted patients are the duration of chronic renal failure, secondary hyperparathyroidism, choledocholitiasis, immunosuppressive drugs, cytomegalovirus (CMV) infection and hypertriglyceridemia (2). Here in, we presented a case of renal transplantation with acute pancreatitis.

Case Report

A 22-year-old transplanted patient, with a diagnosis of horseshoe related end stage renal disease, was admitted to our hospital with abdominal pain. He had a history of nephrectomy and renal transplantation 6 years ago from a living donor. He had been dialyzed 3 days a week for 6 months before transplantation. His immunosupressive therapy consisted of cyclosporine (CycA) 150 mg twice daily, azathioprine 50 mg twice daily, methylprednisolone 4 mg daily. Pulmonary tuberculosis was detected at the second month of transplantation and treated for 6 months. In the 6th year of transplantation CycA was switched to tacrolimus 3 mg twice daily. His renal function was stable with serum BUN 28 mg/dL and Cr 1.4 mg/dL.

He was hospitalized with a right upper abdominal pain, nausea, vomiting and decreased urinary volume. He was afebrile and his blood pressure was 140/90 mmHg. His examination was normal except abdominal tenderness and scleral subicterus. Laboratory investigations showed the following values: hemoglobin 12.2 g/dL, white blood count 8000/mm^3, erythrocyte sedimentation rate 42 mm/hour, glucose 98 mg/dL, BUN 53 mg/dL, creatinine 5.1 mg/dL, Na 139 mEq/L, potassium 5.5 mEq/L, total bilirubin 6.4 mg/dL, direct bilirubin 4.6 mg/dL, alkaline phosphatase 374 IU/L, gamma glutamyl transferase 149 IU/L, triglyceride 115 mg/dL, calcium 9.8 mg/dL, phosphorus 4.7 mg/dL, serum amylase 5556 IU/L, serum

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lipase 9414 IU/L, urinary amylase 3088 IU/L. Serological tests for CMV were negative. Abdominal tomography revealed acute cholelitiasis, dilatation in intra-extra hepatic bile ducts and in pancreatic duct related to obstruction in distal choleductus. Endoscopic retrograde cholangiopancreatography (ERCP) was performed and intra-extra hepatic bile ducts were found normal. Oral intake was stopped. Intravenous ciprofloxacin and metranidazole were started. At the 10th day of the treatment, his clinic got better with serum lipase 98 IU/L, amylase 343 IU/L, BUN 33 mg/dL, Cr 3.4 mg/dL. Cholecystectomy was done three weeks after his admission. A biopsy of gallbladder showed chronic cholecystitis and cholelithiasis. He had gradual improvement in his renal function. Two months after the operation, his creatinine was 2.2 mg/dL.

Discussion

Acute pancreatitis following renal transplantation has been described by Starzl in 1964. The incidence of acute pancreatitis in renal transplanted patients is almost 1% (2). The mortality of acute pancreatitis in these patients is much higher than non-transplanted patients. A number of factors are believed to cause acute pancreatitis in renal transplanted patients. In immunosuppressed patients acute pancreatitis is related to immunosuppressive drugs (azathioprine, corticosteroid, calcineurin inhibitors) and biliary tract disease (gallstones) more commonly than the others mentioned above. There is a persistent risk of gallstone formation and biliary tract complications in patients receiving CycA, mainly more than 2 years (3). It has been known that CycA reduces basal bile flow and bile salt secretion and causes gallstones formation. Our patient was receiving CycA for six years and this might have helped formation of gallstones. Actually we did not find gallstone by ERCP. But approximately two-thirds of patients with recurrent acute pancreatitis without an obvious cause have occult gallstone due to microlithiasis (4) and we could not have demonstrated microlithiasis by ERCP. Azathioprine itself is toxic for pancreas and causes acute pancreatitis. As part of our patient's immunosuppressive treatment, azathioprine and steroid might have also helped acute pancreatitis.

The management of gallstones in patients with undergoing renal transplantation is still controversial. In general population the presence of asymptomatic gallstones is not indicated for cholecystectomy. In literature, some authors have preferred prophylactic cholecystectomy in solid organ transplant recipients because complications of gallstones cause augmentation of morbidity and mortality rates in these patients (5). But there is no generally accepted approach for the management of gallstones among renal transplant recipients (6,7). In literature, the prevalence of gallstones was found increased in patients with end stage renal failure (8). Our patient had been treated with hemodialysis 6 years ago and he had no history and detection of gallstones by ultrasonography at all.

Acute pancreatitis and urgent biliary surgery carry risk of acute renal failure and acute rejection in transplanted patients (1). The renal function of our patient improved with disappearance of acute pancreatitis. The elective cholecystectomy was performed. The proper immunosuppressive regimen is an important problem in immunosuppressed patients after pancreatitis. Mycophenolate mofetil and rapamycin may be considered as first choise.

In conclusion, although the incidence of acute pancreatitis is rare, the morbidity and mortality risks are high in renal transplanted patients. Therefore, a gallbladder ultrasonography should be performed regulary after transplantation to identify asymptomatic gallstones.

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