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CASE REPORT

Autoimmune Pancreatitis Associated with Retroperitoneal Fibrosis

Terumi Kamisawa[1], Masakatsu Matsukawa[2], Masaomi Ohkawa[3]

[1]Department of Internal Medicine, Tokyo Metropolitan Komagome Hospital. Tokyo, Japan.
[2]Department of Internal Medicine, Hirosaki City Hospital. Hirosaki, Japan.
[3]Department of Internal Medicine, Aomori Municipal Hospital. Aomori, Japan

ABSTRACT

Context Autoimmune pancreatitis is sometimes associated with other autoimmune diseases. We have presented two cases of autoimmune pancreatitis with retroperitoneal fibrosis and compared our findings with those found in the literature.

Case 1. A 71-year-old male developed anorexia and weight loss. Abdominal ultrasonography (US) and computed tomography (CT) showed diffuse swelling of the pancreas and the peritoneal soft tissue surrounding the aorta, associated with right hydronephrosis. Endoscopic retrograde pancreatography showed narrowing of the main pancreatic duct. He was diagnosed as having autoimmune pancreatitis associated with retroperitoneal fibrosis and underwent steroid therapy. After 3 weeks, a follow-up CT showed a marked reduction in the size of both the pancreas and retroperitoneal mass.

Case 2. A 62-year-old male was admitted to another hospital complaining of obstructive jaundice. Abdominal CT and US showed swelling of the pancreas. Endoscopic retrograde cholangiopancreatography demonstrated stenosis of the lower bile duct and narrowing of the main pancreatic duct. With the diagnosis of pancreatic head carcinoma, a choledochojejunostomy and a gastrojejunostomy were performed. Histological examination of the biopsy of the pancreatic mass revealed marked fibrosis with lymphoplasmacytic infiltration. One year later, a retroperitoneal mass was detected on follow-up CT. He was treated with prednisolone for two years. Recurrence of retroperitoneal mass with left hydronephrosis occurred 18 months later. There was no sign of recurrence of the autoimmune pancreatitis. He was again treated with prednisolone, and the retroperitoneal mass was gradually reduced.

Conclusions A total of 7 cases including the present cases have been reported. All were middle-aged males. Steroid therapy was effective for both the pancreatic and the retroperitoneal masses.

INTRODUCTION

Autoimmune pancreatitis is a unique entity with a pathogenesis which may involve autoimmune mechanisms. Autoimmune pancreatitis is characterized morphologically by enlargement of the pancreas and the irregular narrowing of the main pancreatic duct, serologically by the elevation of serum IgG and the presence of autoantibodies, histologically by the lymphoplasmacytic infiltration with fibrosis of the pancreas, and clinically by steroid responsiveness [1, 2, 3]. Recent studies have found a co-occurrence of extrapancreatic involvement, such as sclerosing cholangitis, salivary gland

swelling, and lymph node swelling [4, 5]. Only 5 cases of autoimmune pancreatitis associated with retroperitoneal fibrosis have been reported in the literature [6, 7, 8]. We have reported two cases of autoimmune pancreatitis associated with retroperitoneal fibrosis and have reviewed the clinical findings of the coexistence of these rare disorders.

CASE REPORT

Case 1

A 71-year-old male developed anorexia and lost 6 kg over 2 months. He had a history of alcohol intake (20 g/day for 50 years) and smoking (20 cigarettes/day for 50 years). Laboratory studies disclosed the following relevant values: total serum bilirubin 1.1 mg/dL (reference range: 0-1.0 mg/dL), aspartate aminotransferase (AST): 55 IU/L (reference range: 0-35 IU/L), alanine aminotransferase (ALT) 60 IU/L (reference range: 0-39 IU/L), and alkaline phosphatase (ALP) 1,359 IU/L (reference range: 0-350 IU/L). Serum IgG, IgA and IgM were within the normal range. Serum IgG4 was not examined. Abdominal ultrasonography (US) and computed tomography (CT) showed a diffuse swelling of the pancreas (Figure 1), mild dilatation of the bile duct, and peritoneal soft tissue surrounding the aorta associated with right hydronephrosis (Figure 2). Endoscopic retrograde pancreatography showed narrowing of the main pancreatic duct

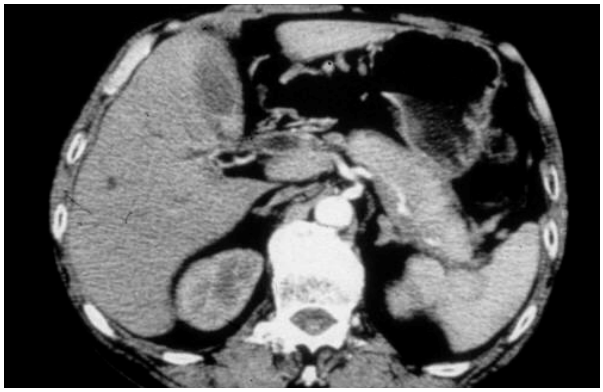

Figure 1. CT showing enlargement of the pancreas (Case 1).

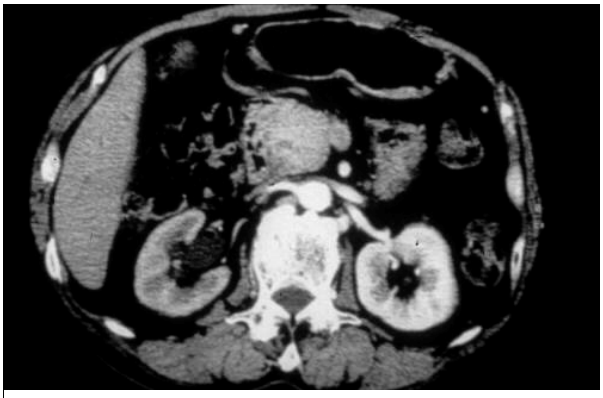

Figure 2. CT showing peritoneal soft tissue surrounding the aorta associated with right hydronephrosis (Case 1).

(Figure 3). He was diagnosed as having autoimmune pancreatitis associated with retroperitoneal fibrosis, and underwent steroid therapy. After 3 weeks, a follow-up CT showed a marked reduction in the size of both the pancreas and the retroperitoneal mass.

Case 2

A 62-year-old male was admitted to another hospital complaining of obstructive jaundice. He had a history of alcohol intake (30 g/day for 30 years) and smoking (20 cigarettes/day for 30 years). Abdominal CT and US showed swelling of the pancreas. Endoscopic retrograde cholangiopancreatography demonstrated stenosis of the lower bile duct and a narrowing of the main pancreatic duct. With the diagnosis of pancreatic carcinoma, a choledochojejunostomy and a gastrojejuno-

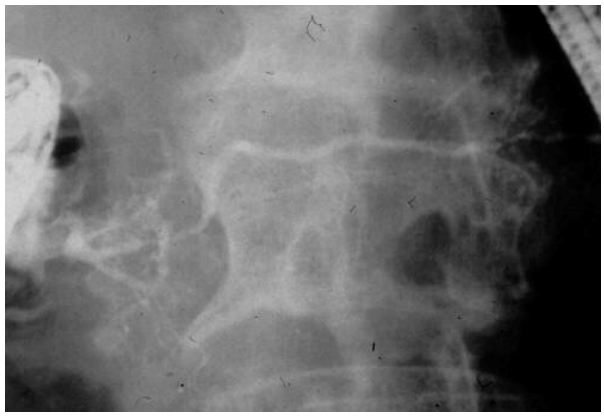

Figure 3. Endoscopic retrograde pancreatography showed a narrowing of the main pancreatic duct (Case 1).

stomy were performed. Histological examination of the biopsy of the pancreatic mass revealed marked fibrosis with lymphoplasmacytic infiltration, which was compatible with findings of autoimmune pancreatitis. One year later, a retroperitoneal mass was detected on a follow-up CT. He was treated with prednisolone for two years. He was admitted for examination of renal dysfunction 18 months later. A CT showed a recurrence of the retroperitoneal mass with left hydronephrosis. There was no sign of recurrence of the autoimmune pancreatitis. Serum IgG was 5,568 mg/dL (reference range: 870-1,800 mg/dL) but serum IgG4 was not examined. Antinuclear antibodies were positive at a titer of 1:1,280. He was initially managed by ureteral catheter. He was treated with 60 mg prednisolone daily again and the retroperitoneal mass was gradually reduced.

Cases of Autoimmune Pancreatitis Associated with Retroperitoneal Fibrosis Reported in the Literature [6, 7, 8]

A total of 7 cases including the present cases have been reported. All were middle-aged males. Autoimmune pancreatitis was synchronous with retroperitoneal fibrosis in 3 cases, and metachronous to retroperitoneal fibrosis (1 year after retroperitoneal fibrosis) in 2 cases. Retroperitoneal fibrosis was metachronous to autoimmune pancreatitis in 2 cases. Hydronephrosis secondary to ureteral obstruction was associated in 6 cases (left: n=4, right: n=2). Serum IgG and IgG4 was elevated in 86% (6/7) and 75% (3/4) of the cases examined, respectively. Antinuclear antibodies were positive in all 3 cases examined. Steroid therapy was effective for both the pancreatic and the retroperitoneal mass.

DISCUSSION

Retroperitoneal fibrosis is an uncommon entity of obscure origin usually confined to the retroperitoneal space. Males outnumbered females by 3 to 1, and the usual time of onset of the disease was in middle age [9]. The etiology remains unclear in most cases. However, steroid therapy is effective and antinuclear antibodies are detected in some patients with retroperitoneal fibrosis, which suggests that an autoimmune mechanism may be involved in some cases [10].

Multifocal fibrosclerosis is an uncommon fibroproliferative systemic disorder with multiple manifestations, including retro-peritoneal fibrosis, sclerosing cholangitis, Riedel's thyroiditis, fibrotic pseudotumor of the orbit and fibrosis of the salivary glands. It is suggested that they are all interrelated and probably different manifestations of a common disorder of fibroblastic proliferation [11]. Some cases of pancreatic pseudotumor or chronic pancreatitis associated with multifocal fibrosclerosis have been reported in the literature [12, 13]. One of the characteristic pathological findings of multifocal fibrosclerosis with retroperitoneal fibrosis is obliterated phlebitis [14] which is most frequently observed in the pancreas of patients with autoimmune pancreatitis [15].

Histological and immunohistochemical findings in patients with autoimmune pancreatitis are characteristic. CD4 or CD8 positive T lymphocytes and IgG4 positive plasma cells infiltrate diffusely with marked interstitial fibrosis through the pancreas. A similar inflammatory process involves the peripancreatic retroperitoneal tissue, biliary tract and salivary gland. From these findings, we previously suggested the existence of a close relationship between autoimmune pancreatitis and multifocal fibrosclerosis [15]. Hamano *et al*. [6] demonstrated the infiltration of many IgG4-positive plasma cells in both the pancreas and the retroperitoneal mass of patients with autoimmune pancreatitis associated with retroperitoneal fibrosis. Although the pancreas might be involved in retroperitoneal fibrosis, these results suggest that a retroperitoneal mass observed in patients with autoimmune pancreatitis seems to be induced by the same mechanism as that of autoimmune pancreatitis, that is, by a different mechanism from that of ordinary retroperitoneal fibrosis.

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Keywords Autoimmune Diseases; Pancreatitis; Retroperitoneal Fibrosis

Correspondence
Terumi Kamisawa
Department of Internal Medicine
Tokyo Metropolitan Komagome Hospital
3-18-22 Honkomagome, Bunkyo-ku,
Tokyo 113-8677
Japan
Phone: 81-3.3823.2101
Fax: 81-3.3824.1552
E-mail: kamisawa@cick.jp

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