AUTOIMMUNE PANCREATITIS: AN ENTITY DIFFICULT TO DIAGNOSE - A CASE REPORT

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ABSTRACT

Background: Autoimmune pancreatitis is a sclerosing disorder characterized by autoimmune serology and multiple organ involvements, considered a disease of the western world, but now its incidence in India is rising because of increased awareness and development of clinicoradiological criteria to diagnose it. **Case summary:** A 60-years-old lady presented with pain abdomen, loss of weight, yellowish discolouration of skin and eyes. Her biochemical investigations revealed deranged liver function tests and raised erythrocyte sedimentation rate. Subsequent imaging showed bulky pancreatic head and an ill-defined hypodense mass lesion in it causing bi-lobar intrahepatic biliary dilatation. Based on the pre-operative diagnosis of carcinoma head of pancreas she underwent Whipple's procedure. To our surprise, histopathological examination confirmed this as autoimmune pancreatitis. **Conclusion:** Inflammatory pseudotumors have frequently been mistaken as pancreatic tumours and resected surgically. Since autoimmune pancreatitis responds dramatically to steroid therapy, accurate diagnosis can avoid major surgical undertakings like pancreatic resection.

KEYWORDS: Pancreatitis, autoimmune, pancreatoduodenectomy

Introduction

Autoimmune pancreatitis (AIP) was first described way back in the 1960s but was first proposed in 1995 as a distinctive clinical entity[1,2]. Over the past decade, our knowledge about this rare type of chronic pancreatitis has substantially increased, but many of its aspects are yet to be understood. In the last few years, two separate subtypes have been identified: Type I AIP has been recognised as a pancreatic manifestation of a multiorgan disease while Type 2 AIP is a pancreas-specific disorder not associated with immunoglobulin G4- related disease. One of the most peculiar features of this disease is its ability to mimic pancreatic cancer. There are no longer studies into the long-term prognosis and management of relapses of AIP, and there is even less information at present regarding the type 2 AIP subtypes. The presentation of AIP is varied, but a classical picture is an obstructive jaundice, often painless or with mild epigastric pain, less commonly new onset diabetes or symptoms of pancreatic insufficiency and weight loss may occur. Autoimmune pancreatitis is rarely thought of as a differential diagnosis when dealing with a case of pancreatic carcinoma especially in a country like India where the prevalence of this entity is extremely rare. Misdiagnosis has the potential to be catastrophic, as undiagnosed cancer may cause delay or loss of opportunity for potentially curative surgery. On the other side pancreatoduodenectomy being undertaken with its high risk of morbidity and mortality for benign disease is also unsatisfactory. We at this moment present a case of pancreatic head mass, misdiagnosed as pancreatic head carcinoma, later on, found to be autoimmune pancreatitis.

Case report

A sixty years old lady of Indian origin presented in surgical outdoor with chief complaints of pain abdomen on and off for 6-7 months, significant loss of weight and appetite since four

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months and yellowish discolouration of eyes since one month. She also complained of low-grade fever during the evening for last one year. The patient had undergone laparoscopic cholecystectomy 1.5 years back. She had joint pain involving distal joints for past ten years; relieved by NSAIDS which she used to take regularly. On general physical examination she was poorly nourished and deeply icteric. Per abdomen, examination revealed slight tenderness in epigastrium, no organomegaly, no free fluid or any palpable mass was found. On biochemical investigations, the patient had raised erythrocyte sedimentation rate and deranged liver function tests (Table 1). USG Abdomen revealed an ill-defined hypoechoic mass lesion in the head of the pancreas measuring 3.1x2.7 cm with dilatation of main pancreatic duct, common bile duct and intrahepatic biliary radicles. Contrast-enhanced computerised tomography(CECT) abdomen showed bulky pancreatic head and an ill-defined hypodense mass lesion in it causing bi-lobar IHBR dilatation and mild MPD dilatation with peripancreatic lymphadenopathy (Fig1). Based on clinical, biochemical and imaging profile a pre-operative diagnosis of carcinoma head of pancreas was considered. The patient was nutritionally optimised, and classical Whipple's procedure was performed. The specimen was sent for HPE. The patient made an uneventful post-op recovery. Grossly cross-section of the mass of head of the pancreas showed a circumscribed grey, white, scirrhous area measuring 3.2 x2.5x 2.0 cm (Fig2). Microsections from the scirrhous area revealed intense lymphoplasmacytic infiltrate and fibrosis causing the destruction of acinar cells and compression of ductules (Fig 3). Hepatic, choledochal and mesenteric lymph nodes revealed reactive hyperplasia. As the patient had already undergone cholecystectomy and presently also was not having any biliary stones, the cause of obstructive jaundice in this patient was extensive fibroinflammatory reaction resulting in obstruction of the biliary ductular system. A histopathological diagnosis of autoimmune pancreatitis type I was made. Postoperative IgG levels in this patient were performed which were significantly raised. The patient was put on steroid therapy, and she showed remarkable improvement. However, unfortunately, after 16 months she has admitted again with complaints of chest pain and breathlessness. She underwent extensive investigations in the form of CECT abdomen and chest, tumour markers, pleural and peritoneal taps but revealed no evidence of malignancy. She also developed pleural effusion and ascites owing to polyserositis which is also a complication of autoimmune disorders. Multiple pleural and peritoneal taps had to be performed over a period of next 8 to 10 days, but patient's condition deteriorated, and she expired 20 days after admission.

Discussion

About 3-4% of patients with idiopathic pancreatitis worldwide is because of autoimmune pancreatitis[3]. It is more common in males and is a disease of the 5th decade. Pathogenesis of AIP is not completely understood but involves autoimmune mechanisms such as hyper agammaglobulinemia, increased serum levels of IgG4 and development of autoantibodies against lactoferrin and carbonic anhydrase II. AIP has two distinct types-type 1, is lymphoplasmacytic sclerosing pancreatitis presenting with diffuse swelling of the pancreas, raised serum levels of IgG, frequently associated with other autoimmune-related diseases[4-6]. AIP type 2 presents in younger age group and has pathognomonic duct-centric pancreatitis [7]. AIP commonly presents as a pancreatic mass that mimics pancreatic ductal adenocarcinoma, obstructive jaundice due to the structuring

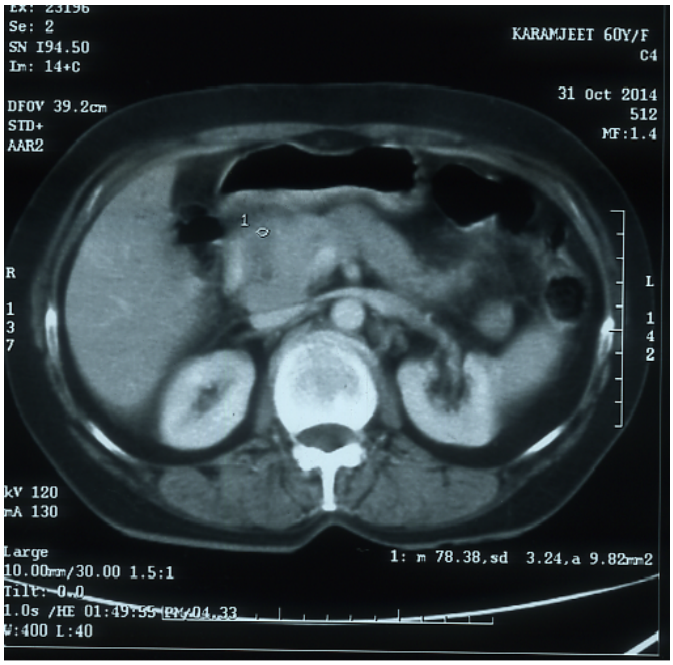

Fig. 1. CECT Axial section showing bulky pancreatic head.

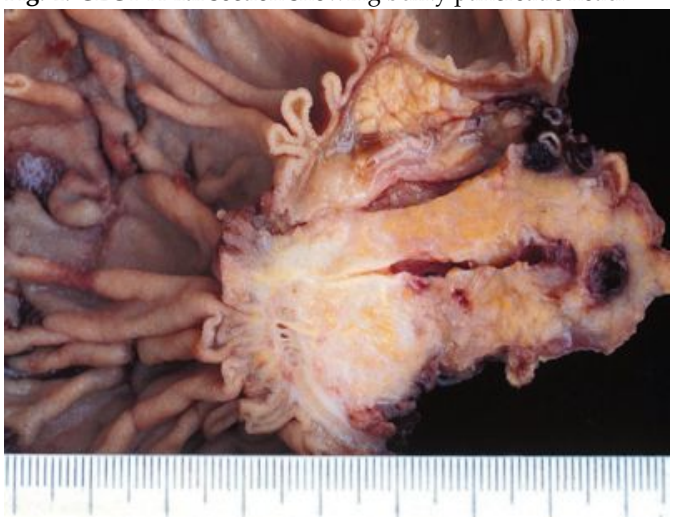

Fig. 2. Gross specimen showing greyish white irregular mass in pancreatic head.

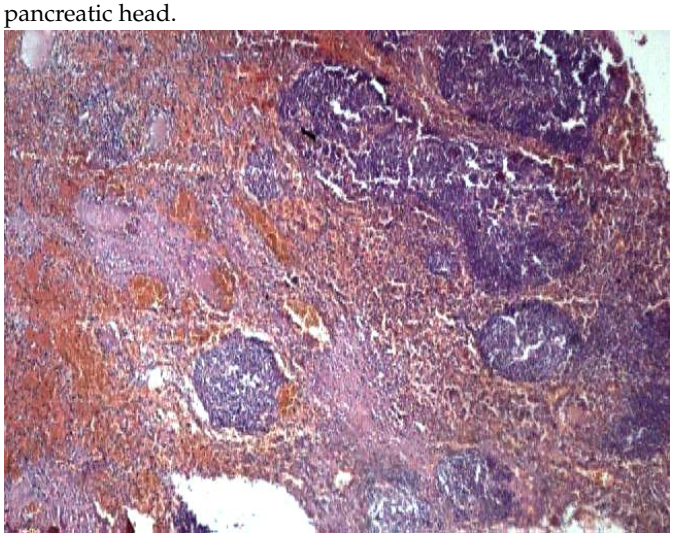

Fig. 3. Photomicrograph H&E staining showing extensive lymphoplasmacytic infiltration.

Table 1 Lab parameters of patient.

Hb	10.2 gm%	INR 1.7
ESR	48 mm in 1st Hr, raised	
Serum Bilirubin	Direct	7.6 mg%
	Indirect	4.6 mg%
Tumor markers	CEA	3 ng/mL
	CA 19.9	110 U/ml
	CA - 125	45 U/ml
S. Proteins	Total 6.7 g/dL	Albumin 2.9 g/dL
S.alkaline phosphatase	625U/L	
SGOT/PT	119/69 U/L	
S.creatinine	0.4 mg/dL	
Blood sugar	107 mg/dL	

of intrapancreatic portion of common bile duct, hilum and intrahepatic ducts is also common[4]. Extrapancreatic manifestations of this systemic disease include IgG4-associated cholangitis, retroperitoneal fibrosis, tubulointerstitial nephritis along with metachronous or synchronous inflammatory pseudo tumour formation in various organs. Sclerosing cholangitis is the most frequent extra pancreatic lesion seen in patients with AIP[8]. Studies have shown that AIP account for up to 27% of Whipple resections for suspected carcinoma and up to 21% of all benign pancreaticoduodenectomies[9]. The biggest challenge in AIP is making a diagnosis as there is no single test to confirm the disease. Even biopsies are sometimes nondiagnostic because of patchy involvement of pancreas by AIP. Hence sampling of standard or spared areas would not confirm the diagnosis[10]. To avoid diagnosing AIP as pancreatic cancer and vice a versa, a few diagnostic criteria have been devised based on histological findings and imaging. Histology is considered the gold standard for diagnosing AIP. Positive histology implies the presence of either periductal alymphoplasia cystic infiltrate with obliterative phlebitis and storiform fibrosis (LPSP) or lymphoplasmacytic infiltrate with storiform fibrosis showing abundant (>10 cells/HPF) IgG4-positive cells[11]. Imaging suggestive of AIP includes enlargement of the pancreatic parenchyma and narrowing of the main pancreatic duct (MPD). Endoscopic retrograde cholangiopancreatography (ERCP) is the standard examination for evaluating AIP[12]. CT scan characteristically shows diffuse enlargement of the pancreas with a peripheral rim of hypo attenuation, loss of lobularity and involution of the pancreatic tail[13]. MRI too demonstrates the diffuse expansion of the pancreas with diminished signal intensity on T1- and increased signal intensity on T2-weighted images and a hypointense capsule-like rim. Duct penetrating sign is seen on secretin-MRCP[14]. Currently, no single serologic abnormality is diagnostic of AIP but raised serum IgG4 is a characteristic feature of AIP and a cut-off value of IgG4 > 140 mg/dl has a sensitivity of 76% and specificity of 93% [15-16]. Involvement of other organs in addition to the pancreas is an important indicator of AIP when differentiating it from pancreatic cancer. At the same time, it also helps provide tissues that can be biopsied quickly. Response to steroid therapy is a corroborative evidence of AIP. AIP is sensitive to steroid therapy, dramatic results are seen after initiation of treatment on remission of symptoms[17]. However, steroid treatment can cause atrophic pancreas, residual exocrine, and endocrine insufficiency. Cases of AIP refractory to steroids may require immunomodulators like azathioprine, mycophenolate mofetil and rituximab[18].

Conclusion

A high index of suspicion of AIP is warranted when a patient presents with a pancreatic tumour along with fluctuating jaundice, raised serum IgG4 levels, sclerosing cholangitis, nephritis, salivary gland tumours, biopsies negative for malignancy and classical radiological features of AIP like diffuse pancreatic enlargement and narrowing of MPD. Such patients should be given a trial of steroid therapy, to which they respond thus avoiding major surgical procedures.

Authors' Statements

Competing Interests

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

There were no financial support or relationships between the authors and any organization or professional bodies that could pose any conflict of interests.

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