Autoimmune pancreatitis mimicking multiple pancreatic cancer: case report

Abstract: Autoimmune pancreatitis is a rare type of chronic pancreatitis that can mimic pancreatic cancer. Our clinical report was about a case of autoimmune pancreatitis with separated location and false-positive findings of imaging on CT, MRI, ERCP, US, and PET/CT suggestive of pancreatic tumor. When the tumor marker CA 19–9 is not elevated in cases involving a pancreatic mass, pancreatic cancer should be differentiated from mass-forming pancreatitis. However, the results of these auxiliary examinations could not be ignored minimally invasive biopsy was the safest choice in this case, since no other method, including tumor marker assessment, could provide a clear diagnosis.

Keywords: Autoimmune pancreatitis, pancreas, cancer, diagnosis, radiology, positron emission tomography, markers.
Introduction

Autoimmune pancreatitis is a rare type of chronic pancreatitis that can mimic pancreatic cancer [1]. It accounted for 5–6% of all patients with chronic pancreatitis. Autoimmune pancreatitis (AIP) typically affects middle-aged patients who lack the risk factors associated with chronic pancreatitis. Although AIP primarily affects the pancreas, several other organs systems including the bile ducts, the kidneys, the retroperitoneum, and the salivary glands may be involved. Elevation of serum Ig-G4 is the best serologic marker. The predominant histologic feature of AIP is infiltration of Ig-G4-positive lymphocytes into pancreatic or extrapancreatic tissue.

The clinical presentation of AIP can vary widely. Most patients present with jaundice or abdominal pain. The hallmark of this disease entity is a periductal infiltrate of CD4- or CD8-positive lymphocytes and IgG4-positive plasma cells. At the initial stages, there is a cuff of lymphoplasma cells surrounding the ducts but also more diffuse infiltration in the lobular parenchyma. Interstitial fibrosis and acinar cell atrophy appears in later stages. Focal masslike or segmental enlargement of the pancreas is seen in 30–40% of patients with AIP. On CT, the enlarged segment of the pancreas is typically isoattenuating or hypoattenuating to the spared, nonenlarged segment of pancreatic parenchyma and may be indistinguishable from PC.

We report a rare case of a patient with histologically proven AIP mimicking multiple pancreatic ductal adenocarcinomas.

Case report

A 74-year-old man was admitted for his regular check-up. Multiple pancreatic mass like lesions were found on ultrasound. He had no abdominal symptoms. The serum tumor markers carcinoembriogenic antigen (CEA), carbohydrate antigen (CA 19–9) was normal.

Abdominal CT scan showed swelling of the pancreas and multiple hypovascular lesions in the head, neck and tail of the pancreas (fig. 1). The largest one in the tail measured 7 cm.

MRI also revealed hypovascular lesions in the head, neck and tail of the pancreas (fig. 2). They were hypointense on precontrast T1-weighted images and slightly hyperintense on T2-weighted images. Splenic vein was obliterated by the mass. Peripancreatic fat infiltration also was noted.

We suspected multiple pancreatic ductal carcinomas. Although hypovascular mass like lesion strongly suggest the pancreatic cancer, the other findings such as mild pancreatic ductal dilatation compared to size of the mass and multiplicity were not common feature for the pancreatic ductal carcinoma.

Therefore, the patient underwent PET/CT. On F18-FDG-PET/CT mass lesions in pancreatic neck and tail showed intensely increased FDG uptake which is highly suggesting of malignant lesions. The lesion in pancreas head showed mildly increased FDG uptake.

Endoscopic ultrasound (EUS) showed solid, anechoic, inhomogeneous lesions in the head, neck, highly suspecting pancreatic cancer. Fine needle aspiration (FNA) of the pancreatic mass-like lesion aspirate cytology was epithelial cells with moderate dysplasia, but due to lack of sample to making conclusive histologic diagnosis was difficult.

Under the high suspicion to pancreatic tail cancer, patient was planned for laparoscopy assisted distal pancreatectomy. However, the intraoperative ultrasound showed multiple pancreatic tumor infiltration to colonic mesentery after what provided laparoscopy assisted total pancreatectomy with splenectomy (fig. 4).
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Hisopathologic examination revealed severe lymphoblastic infiltration and fibrous changes and obliterative phlebitis in the pancreatic stroma and adhesions to spleen and adrenal gland which were consistent with IgG4-related pancreatitis (type 1 autoimmune pancreatitis). Immunohistochemical stain showed positive IgG (110/HPF) and IgG4 (75/HPF), and IgG4/IgG ratio was about 68%. Repeated serum tumor markers were also within normal limits.

Discussion

Autoimmune pancreatitis (AIP) is a rare pancreatic disorder that in recent years is drawing the attention of many clinicians because of the differential diagnosis with pancreatic cancer [1]. AIP is currently still a rare disease and is difficult to distinguish from pancreatitis and pancreatic cancer in the early period [2]. Unlike usual chronic pancreatitis, AIP is a relatively painless disease, despite histology showing chronic pancreatic inflammation and evidence of pancreatic edema, peripancreatic inflammation, and in some cases pancreatic calculi [3].

AIP is thought to comprise two distinct clinicopathologic syndrome, designated as type 1 and 2. Type 1 AIP is thought to be a prototype of IgG4-related systemic disease with predominant involvement of the pancreas. Patients with type 1 AIP usually present obstructive jaundice associated with high level of IgG4 in serum and a pancreatic mass at radiological imaging. IgG4-related diseases affect many organs such as the pancreas, biliary tract, liver, central nervous system, thyroid gland, prostate, kidney, retroperitoneal, and lymph nodes. It affects mainly middle-aged and elderly men with male to female ratio 4–7:5:1. The initial remission rate is high with corticosteroid therapy; however, type 1 AIP has a high 3-year relapse rate of up to 60%.

Both AIP and PC have common clinical manifestations, such as preponderance in elderly men, presentation with obstructive jaundice, and elevated level of serum tumor markers, making it difficult to distinguish these two entities. Although the diffuse form of AIP usually can be distinguished from PC on imaging, differentiating focal AIP from PC is challenging. In our case, multiple focal hypovascular lesions made it difficult to diagnose correctly.

North America, about 2.5% of patients with a preoperative diagnosis of pancreatic cancer are diagnosed with AIP postoperatively. Because the inflammatory lesion in AIP sometimes produces a whitish, fibrosclerotic, tumour-like mass in the pancreas (most frequently in the head of the pancreas), pancreatic cancer represents the most important differential diagnosis [4]. Autoimmune pancreatitis frequently causes the appearance of a mass in the pancreas in radiological tests and it is confused with cancer of the pancreas. CECT and MRI with MRCP gives chance to confirm diagnosis of AIP. CECT in pancreatic cancer cases can show Positron emission tomography (PET) scanning with F18–2-deoxyglucose (FDG) shows an increased uptake in AIP, but this is also seen in pancreatic cancer [5]. Ozaki et al. [6] examined FDG uptake in 15 AIP patients and 26 pancreatic cancer patients. They observed FDG accumulation in pancreatic lesions in all AIP patients, but only in 73% of the cancer patients. The accumulation pattern more frequently showed a nodular shape in pancreatic cancer, while it had a tendency to be more longitudinal in AIP, but also in the diffuse type of pancreatic cancer [6]. Another study showed a diffuse uptake in 53% of AIP patients, but only in 3% of pancreatic cancer patients [7]. Kamisawa et al. [8] reported that 27% of AIP patients had focal pancreatic changes in the pancreatic head. In another study, the focal type of AIP was found in 53% of pancreatic resection specimens which were originally removed due to the suspicion of pancreatic cancer, but which postoperatively turned out to lack pancreatic malignancy [9]. CT in pancreatic cancer shows poor contrast enhancement and low density mass with duct dilatation. Our patient CECT and MRI presented with atypical radiologic pattern of AIP, such as low density mass in head, body and tail of pancreas. In these cases of AIP differentiation between pancreatic cancers is more difficult. EUS-FNA gives more accurate in this situation. Due to small sample of FNA we need to provide every method for accurate diagnosis of AIP and pancreatic cancer.

Conclusion

Our clinical report was about a case of autoimmune pancreatitis with separated location and false-positive findings on CT, MRI, ERCP, US, and PET/CT suggestive of pancreatic tumor. However, the results of these auxiliary examinations could not be ignored minimally invasive biopsy was the safest choice in this case, since no other method, including tumor marker assessment, could provide a clear diagnosis. When the tumor marker CA 19–9 is not elevated in cases involving a pancreatic mass, pancreatic cancer should be differentiated from mass-forming pancreatitis.

References:

A modified open surgical technique for the management of posterior urethral injuries

Abstract: The results of modified urethroplasty of 17 patients with urethral injuries at the age from 18 to 62 years have been retrospectively studied. The authors maintain that new technique is optimal for the repair of posterior urethral injuries and may reduce the incidence of postoperative restructure.

Keywords: Urethroplasty, posterior urethral stricture, operative technique, urethral injury, pelvis fracture.

Introduction

Urethral strictures have always been common. As long ago as in ancient Greece, urethral stricture disease was cited in reports that described bladder drainage through the use of various catheters. Urethral stricture is the result of the development of scar tissue after either traumatic or inflammatory injury of the urethra. The condition has challenged urologists in the past and is still one of the most testing situations for the surgeon [11; 15].

Urethral injuries from external trauma are among the most serious affecting the genitourinary system, with major debilitating complications that include urine retention, impotence, incontinence, stricture, fistula and abscess formation and they lead to the lethal outcomes, long — termed disability and invalidity [5; 13].

Post-traumatic urethral injuries frequently occur as a result of pelvic fractures during vehicular accidents and catatrauma. In the structure of the combined injuries of pelvis and lower urinary tracts consist from 4.4 to 12.8% [13]. As the membranous urethra is fixed to the tough perineal membrane, which is attached firmly to the pubic arch, any major force causing pelvic fracture leads the prostate to rise towards the abdominal cavity, stretching and straining the bulbous urethra [6].

The choice of management of posterior urethral injury remains controversial [17]. Initial supra pubic cystostomy is based on the Johanson principle, and delayed urethral re-construction had been considered as a reference standard for managing anterior urethral injuries [14]. This approach has problems like need of a supra pubic drainage for prolonged period (6 weeks to 3 months) as well as formation of an inevitable urethral stricture requiring reconstructive urethroplasty [10], but it has become widely accepted in the past three decades, as it avoids surgical interventions in the presence of major pelvic haematomas, therefore implying a greater risk of infection and excessive blood loss [4]. Recent advances in endourological techniques have made primary realignment feasible to perform with minimal manipulation. But there is great variation in recurrence rates reported after urethral dilatations and urethrotomies with a 50 to 60% success rate in short strictures without spongiosfibrosis. In longer strictures with spongiosfibrosis, the recurrence rate is about 80% because of scarring contraction [16], so the idea is to use the external metallic frame ring during the immediate urethroplasty for preventing recurrence based on mechanical interference to prevent the scarring process that ends in contraction.

At Republican research center for emergency medicine till 2011 we managed all male patients with urethral disruption from blunt trauma with suprapubic cystostomy and later stricture repair when necessary. And for last 5 years we manage the patients with posterior urethral injuries by using external metallic frame ring during the immediate urethroplasty without supra pubic cystostomy.

We herewith retrospectively analyse our experience with immediate realignment of posterior urethral injuries.

Purpose

The aim of this work is to describe and assess the results of a modified open surgical technique use of the external metallic frame ring in the immediate treatment of posterior urethral injuries.

Materials and methods

We carried out our study in the Urology department of Republican research center for emergency medicine from April 2012 to September 2015. It included 17 male patients with posterior urethral injuries from external trauma.