

Focal chronic pancreatitis mimicking intraductal papillary mucinous neoplasm of the pancreas

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Abstract

A case of chronic pancreatitis localized in the pancreatic head mimicking intraductal papillary mucinous neoplasm (IPMN) is reported. The patient presented with obstructive jaundice caused by a pancreatic head mass. Imaging findings showed clustered small cystic lesions within the mass and delayed enhanced area adjacent the cystic lesions. A malignant IPMN was suspected but the surgical specimen showed focal chronic pancreatitis.

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1. Introduction

The branch duct-type of intraductal papillary mucinous neoplasm (IPMN) of the pancreas is thought to be less aggressive than the main duct-type or the combined type and sometimes can be followed up without surgical management [1]; however it has malignant potential, and the invasion to the adjacent tissue has infrequently been reported [2,3]. Therefore, the precise diagnosis of IPMN by imaging is clinically important. We encountered a case of obstructive jaundice caused by focal chronic pancreatitis with multiple small cystic lesions in the pancreatic head. The lesion mimicked a malignant IPMN invading the adjacent pancreatic parenchyma. In this report, we describe this case focusing on imaging and pathologic correlation.

2. Case report

A 57-year-old man was referred to our hospital for a further examination of a pancreatic head lesion found by ultrasound and CT. He had occasionally experienced epigastralgia dur-

ing the previous month. He presented with jaundice and felt itchy for several days prior to his admission. He did not have a daily drinking habit. Laboratory analysis showed elevation of serum hepatobiliary enzyme levels and total bilirubin level (16.1 mg/dL [normal range, 0.2–1.0 mg/dL]). The serum levels of tumor markers were also slightly elevated (CEA/S was 4.0 U/mL [normal range <2.5 U/mL] and CA19-9 was 77 U/mL [normal range <37 U/mL]). The serum levels of pancreatic enzymes were normal. The white blood cell counts and the serum level of C-reactive protein were within the normal range.

At first, upper gastrointestinal tract endoscopy was performed to manage jaundice. Endoscopy demonstrated the normal duodenal mucosa. The size of the papilla of Vater was normal and mucin secretion through the papilla was not observed. Endoscopic retrograde cholangiopancreatography (ERCP) showed severe stricture of the intrapancreatic common bile duct and mild and diffuse dilatation of the main pancreatic duct. An endoscopic naso-biliary drainage tube was subsequently placed. Cytology of the bile was class III.

Unenhanced computed tomography (CT) showed a hypoattenuating mass lesion 3.5 cm in diameter in the pancreatic head (Fig. 1A). On arterial-dominant phase of dynamic CT, the lesion did not show early enhancement relative to the surrounding pancreas (Fig. 1B). Equilibrium-phase CT showed

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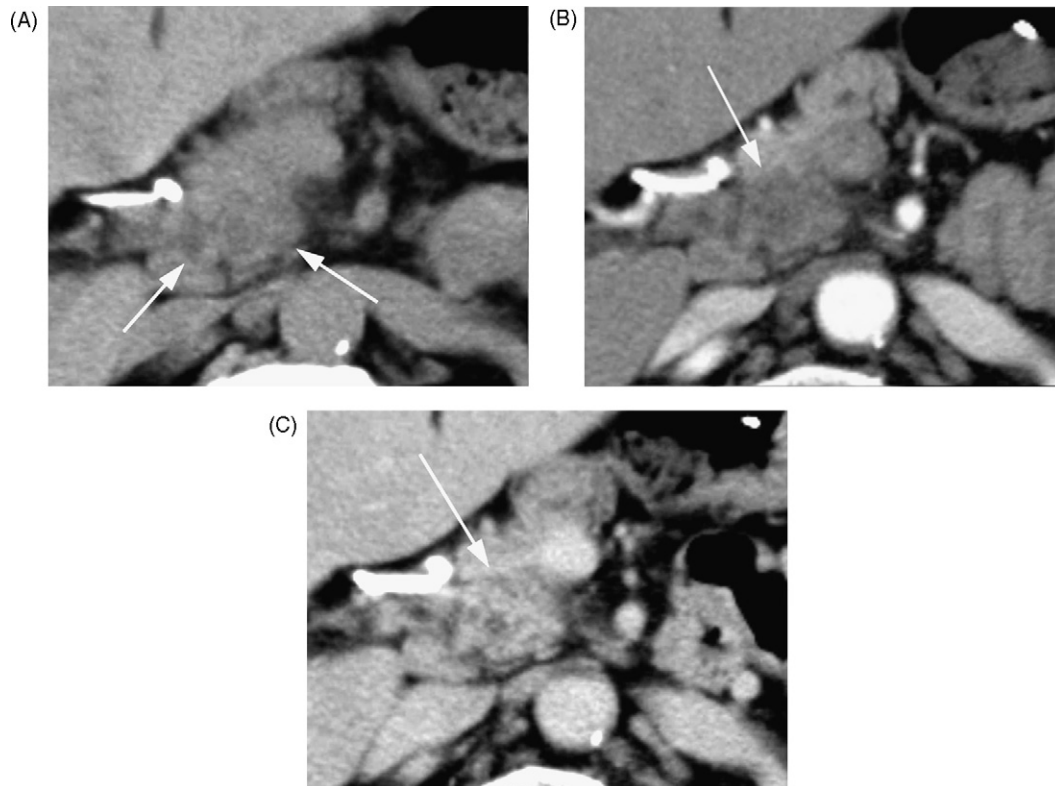


Fig. 1. (A) Unenhanced CT shows a hypoattenuating mass lesion approximately 3.5 cm in diameter in the pancreatic head (arrows). (B) On arterial-dominant phase, the lesion does not show early enhancement relative to the surrounding pancreas (arrow). (C) Equilibrium-phase CT shows delayed enhancement of the lesion (arrow).

delayed enhancement of the lesion. Multiple cystic lesions up to 1.5 cm in diameter were also demonstrated within the mass (Fig. 1C).

On magnetic resonance (MR) images, the mass lesion showed inhomogenous hypointensity on T1-weighted images and hyperintensity on fat-suppressed T2-weighted images (Fig. 2A). Multiple small cystic lesions were also demonstrated in the mass. Within the largest cystic lesion, small hypointense nodules like mural nodules were demonstrated on T2-weighted images.

On dynamic study, the mass lesion did not show early enhancement even in mural nodule-like lesions. The mass lesion showed delayed enhancement mainly around the cystic lesions but the mural nodule-like lesions showed no enhancement (Fig. 2B). Thickening and delayed enhancement of the intrapancreatic common bile duct wall adjacent to the mass lesion was also demonstrated. On MR cholangiopancreatography (MRCP), these cystic lesions seemed to connect with each other and appeared similar to cluster of dilated branch ducts (Fig. 2C). The main pancreatic duct was slightly dilated, although direct connection between these cystic lesions and the main pancreatic duct was not identified.

From these imaging findings, a malignant tumor derived from IPMN was suspected and pancreaticoduodenectomy was performed. The pathological diagnosis was focal chronic pancreatitis with multiple retention cysts in the pancreatic head. Macroscopically, the mass lesion looked whitish and there were multiple small cystic lesions within it. The largest cystic

lesion displaced the common bile duct and contained granular proteins (Fig. 3A). It was speculated that these materials were demonstrated as mural nodules on MR images. Histologically, the infiltration of inflammatory cells and multiple retention cysts were seen in the lesion, and the diagnosis of focal chronic pancreatitis was established. Hyperplastic change and epithelial metaplasia were revealed in the dilated duct, but the columnar epithelia with mucinous hypertrophy and nuclear abnormalities were not seen (Fig. 3B). The etiology of chronic pancreatitis was unknown in this patient.

3. Discussion

Chronic pancreatitis generally affects the entire pancreas and imaging diagnosis is not difficult. When it develops in a localized area, however, distinction from pancreatic ductal carcinoma is frequently difficult because the lesion is demonstrated as a hypovascular solid mass [4,5]. On the other hand, a diagnosis of the branch duct-type of IPMN is also not difficult because of its characteristic cystic form; however, it is important that focal chronic pancreatitis sometimes mimics IPMN because of marked cystic dilatation of the branch ducts.

In the present case, imaging findings showed a mass lesion that occluded the common bile duct in the pancreatic head. Multiple small cystic lesions within the mass mimicked dilated branches of the pancreatic duct, especially on MRCP imaging,

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