Case Report

Chronic pancreatitis mimicking intraductal papillary mucinous neoplasm of the pancreas; Report of tow cases

Noritoshi Mizuta, Hiroshi Noda, Nao Kakizawa,
Nobuyuki Toyama, Fumio Konishi

Abstract

We report two cases of chronic pancreatitis mimicking intraductal papillary mucinous neoplasm（IPMN）. The first is a 71year old man with a cystic mass in the pancreas that appeared to be IPMN on imaging but histologically was a simple cyst. The second is a 59 year old man with a cystic lesion that appeared to be IPMN but histologic study after resection revealed chronic pancreatitis. Accurate preoperative diagnosis of cystic lesions of the pancreas is difficult. Chronic pancreatitis sometimes forms pseudocysts which resemble IPMN. It is important to consider these benign diagnoses in patients with cystic lesions of the pancreas on preoperative imaging.
（Key words: chronic pancreatitis, intraductal papillary mucinous neoplasm, pseudocyst）

Ⅰ. Introduction

Recently, cystic lesions of the pancreas are diagnosed more frequently because of the widespread use of imaging[1]. IPMN and benign pseudocysts are among the variety of cystic lesions of the pancreas, and differentiating them preoperatively may be difficult. We present here two patients with chronic pancreatitis mimicking IPMN, who underwent surgical resection. The differential diagnosis of cystic lesions of the pancreas is discussed.

Ⅱ. Case Report

Case 1：A 71-year old male felt general fatigue in December 2006, and was diagnosed with diabetes mellitus. He had a 50 year history of drinking about 500 ml of sake every day. In April 2007, he underwent the abdominal ultrasonography（US）as part of a routine check up and was found to have a pancreatic tumor. Laboratory results were within normal limits except for HbA1c（6.6%）. Tumor markers, including CEA and CA19-9, were within normal limits. Computed tomography（CT）scan of the abdomen showed a cystic lesion in the pancreatic head, measuring about 3x3 cm（Figure 1A）. In addition, another cystic lesion was also seen in the pancreatic body（6x2cm）（Figure 1B）. The radio-density of both lesions was low and an enhancing area was seen in the cyst. Endoscopic retrograde cholangiopancreatography（ERCP）revealed no mucus discharge and no enlargement of the ampulla of Vater. Stenosis of the main pancreatic duct（MPD）at the pancreatic head and dilation to the body could be seen（Figure 2）.

Department of Surgery, Saitama Medical Center, Jichi Medical University.

On endoscopic ultrasonography (EUS), there was a nodule in the cyst (Figure 3). The patient was diagnosed with main duct type IPMN, and underwent total pancreatectomy. Dense adhesions were seen in the abdominal cavity and dissection around the pancreas was difficult. Ascites developed postoperatively, but was treated successfully with drainage and diuretics. Twenty eight days after operation, the patient was discharged. Histology revealed that the mass identified on preoperative imaging was a result of acute bleeding complicating chronic pancreatitis (Figure 4). No tumor was seen.

Case 2：A 59 year old male was admitted for alcoholic pancreatitis in July and December 2007, and found to have a multi-locular cystic lesion in the pancreatic head on CT and magnetic resonance cholangiopancreatography (MRCP) measuring about 28mm. He was referred to our hospital. He had a history of a duodenal ulcer at age 49, and had smoked 20-30 cigarettes daily. He drank about 300ml of sake every day. Laboratory tests were within normal limits. CT scan of the abdomen showed a multi-locular cystic lesion with a septal wall measuring about 3.1x2.1cm. The tumor was low density, but an enhanced component was seen within the cyst (Figure 5). ERCP showed no mucus or papillary enlargement, but the multi-locular cystic lesion was seen. Both ERCP and MRCP clearly demonstrated a communication between the MPD and the cystic lesion (Figure 6A, B). EUS showed a nodule in the cyst (Figure 7). The patient was diagnosed with a branch duct type IPMN and pancreaticoduodenectomy was performed. The patient was discharged 14 days after surgery. Histologic analysis demonstrated no tumor and no cyst in the pancreatic head (Figure 8). There were no atypical cells in the pancreatic duct, but squamous metaplasia was seen in the pancreatic duct. The final pathological diagnosis was chronic pancreatitis.

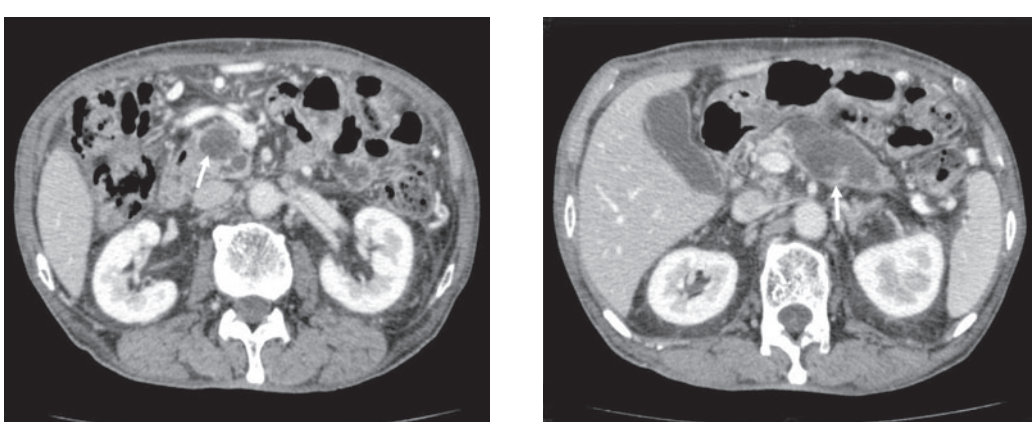

Figure 1A and 1B：CT shows low density cysts in the pancreas head (A) and body (B).

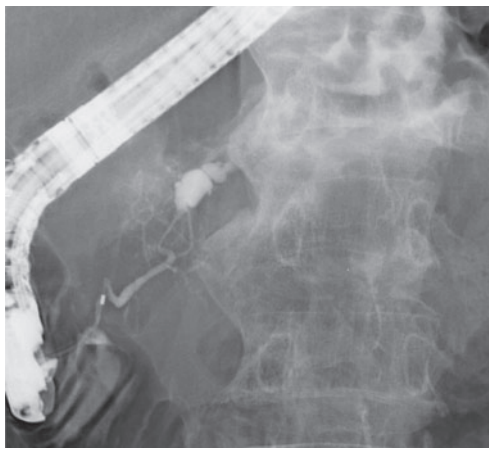

Figure 2 : ERCP shows stenosis of the MPD at the pancreatic head and dilation from there to body.

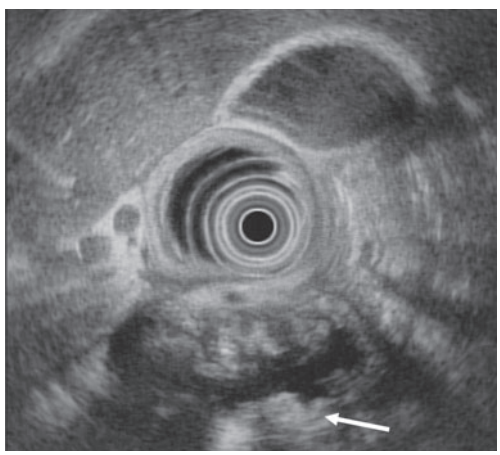

Figure 3 : EUS revealed a nodule in the cyst wall.

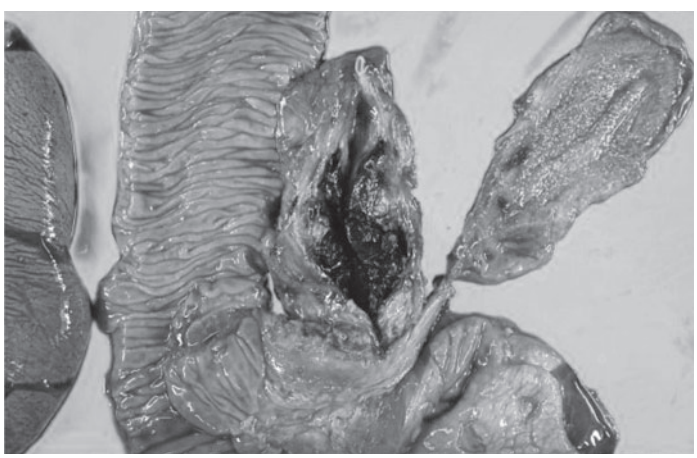

Figure 4 : A cyst is shown in the pancreas, with bleeding into the cyst.

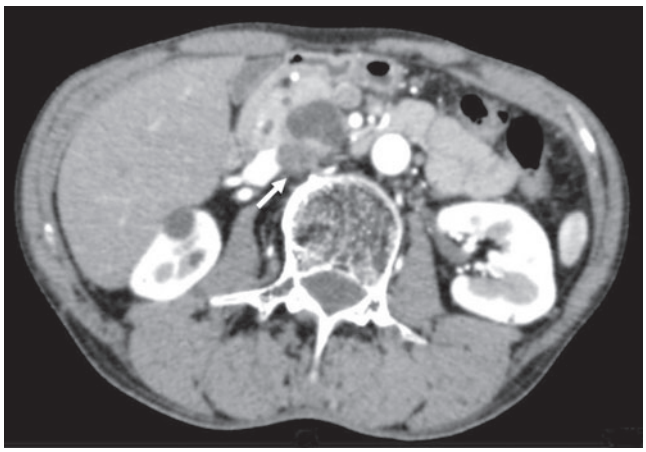

Figure 5 : CT shows a low density lesion in the pancreatic head.
An enhanced component was seen inside the lesion.

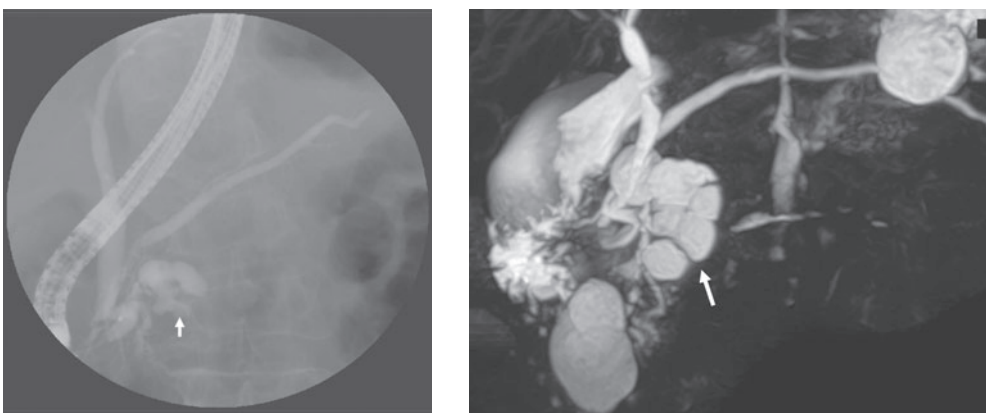

Figure 6A and 6B : ERCP（A）and MRCP（B）revealed a multilocular cystic lesion with communication to the MPD.

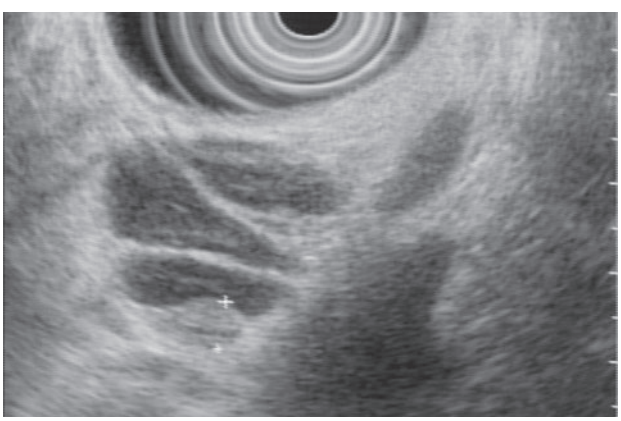

Figure 7 : EUS showed a nodule in the cyst.

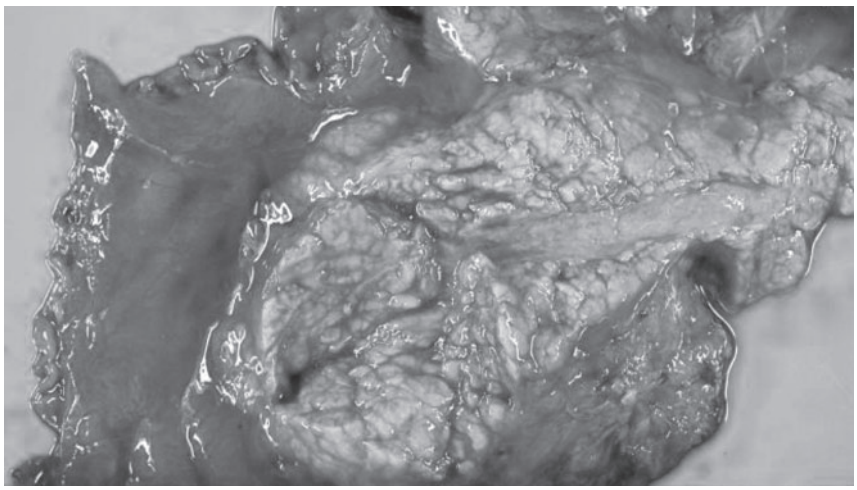

Figure 8 : The resected specimen shows neither tumor nor a cyst in the pancreatic head.

Ⅲ. Discussion

The cystic lesions of pancreas can be classified into three groups including: Pseudocysts, Pancreatic cystic tumors and True cysts[1]. Pseudocysts occur after acute pancreatitis, an acute exacerbation of chronic pancreatitis, and abdominal trauma[2]. They comprises over 70% of all cystic lesions in the pancreas[1]. Pancreatic cystic tumors consist of three types: serous tumors（including serous cystadenoma and cystadenocarcinoma）, mucinous tumors（including mucinous cystadenomas, mucinous cystadenocarcinomas, and IPMN ）and solid pseudo papillary tumors （SPT）[1]. True cysts account for a very small percentage of the cystic lesion in the pancreas, and include von Hippel-Lindau, cystic fibrosis, and lymphoepithelial cysts[1]. Thus, the differential diagnosis of cystic lesions in pancreas comprises a long list, and differentiating the true diagnosis can be difficult.

We cared for two patients with chronic pancreatitis mimicking IPMN. IPMN is classified into a main duct type and a branch duct type[3]. The main duct type is more frequently associated with malignancy. Most cases of the branch duct type are benign[4]. To establish the diagnosis of IPMN and pseudocyst（following chronic pancreatitis）, there are some important points. The medical history is very important to establish a diagnosis of a pseudocyst. A history of acute or chronic pancreatitis, a history of excessive alcohol use or abdominal trauma suggests the diagnosis of a pseudocyst. Both patients reviewed here had a history of alcohol abuse and one patient had a previous history of alcoholic pancreatitis, suggesting the diagnosis of a pseudocyst. The clinical findings in IPMN are nonspecific, and include abdominal pain, gastrointestinal upset, and occasionally pancreatitis. New-onset diabetes, weight loss, and jaundice may be hallmarks of invasive disease[5]. Up to 20% of patients have a history of acute pancreatitis. Pseudocysts frequently shows a well circumscribed, unilocular cystic lesion on imaging studies[5]. It is usually non-loculated and no septae are present[1]. Calcification is often seen in the pancreas on CT scan in patients with chronic pancreatitis. On the other hand, IPMN lesions typically appear as a polycystic mass associated with dilation of the MPD or its side branches. The main duct type shows marked and diffuse or segmental dilatation of the MPD. The branch duct type shows grape –like cystic dilatation of the branch ducts with

mild or no dilation of the MPD[4]. CT scan may also show intracystic or intraductal polypoid leisions (mural nodules), in either type. Furthermore, EUS can detect fine IPMN structures, particularly mural nodules[6]. MRCP can visualize the pancreatic ductal system and also show mural nodules. ERCP may reveal intraductal or intracystic mucin and mucin excretion from the enlarged papilla, and may be useful to diagnose the main duct type and the branch duct type.

Trans-papillary sampling of pancreatic juice is also useful for cytologic diagnosis. In a patient with no history of alcohol use, abdominal trauma or chronic pancreatitis, in the presence of the CT findings described previously, the diagnosis of IPMN is more likely. Additionally, the presence of the findings on EUS, MRCP and ERCP described, further support the diagnosis of IPMN. The American Society for Gastrointestinal Endoscopy recommend the use of both ERCP and EUS in the management of pancreatic cystic lesions[1]. EUS guided fine-needle aspiration (FNA) lacks sensitivity to enable accurate cytological diagnosis, but has high specificity for mucinous cystic neoplasms (MCN) and malignancies. Furthermore, FNA is not recommend in Japan because there of the possibility of tumor dissemination.

The nodule in the cyst seen on EUS at the first patient was likely formed by bleeding into the pseudocyst. The reason for bleeding might be erosion of a pancreatic or peri-pancreatic artery into the pseudocyst[7]. This patient had no dilation of the ampulla of Vater and no clear communication with the cyst or pancreatic duct. It was not similar to IPMN. ERCP performed on the second patient described showed no mucus discharge or enlargement of the ampulla of Vater. However, MRCP and ERCP revealed that the mass had a multilocular cystic component and a septal wall. This is not usually seen in patients with typical pseudocysts. Furthermore, communication between the MPD and the cystic lesion was also shown, and the diagnosis of the branch duct type IPMN was made. In this case, it might be difficult to consider the possibility of a pseudocyst. From the results of pathological evaluation, the nodule in the cyst may be a protein plug in the pseudocyst.

In conclusion, despite the development and widespread use of imaging techniques, it is still difficult to establish an accurate diagnosis of IPMN preoperatively. Establishing an accurate diagnosis requires careful consideration of the complete medical history as well as the appropriate use of imaging and endoscopic studies. Since chronic pancreatitis can lead to pseudocyst formation, the possibility of a benign diagnosis must be considered preoperatively in patients with a cystic mass in the pancreas.

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術前にIPMNと診断した慢性膵炎の２例

水田　憲利，野田　弘志，柿澤　奈緒，
遠山　信幸，小西　文雄

要　約

【症例１】71歳，男性。平成19年に糖尿病と診断、腹部超音波検査（US）で膵腫瘍認め紹介受診。CTで膵頭体部に嚢胞性病変あり，主膵管の拡張および内部に壁在結節を認めた。病変は主膵管と交通があり，IPMCと診断。膵全摘術施行。術後腹水の貯留認めたが改善し，軽快退院となる。病理では慢性膵炎像を混じた急性出血性変化による嚢胞腔形成と診断された。

【症例２】59歳，男性。平成19年にアルコール性膵炎で他院に入院。CTとMRCPで膵頭部に多房性嚢胞性病変認め，紹介受診。USとEUS上病変は主膵管と交通があり，内部に壁在結節認め、分枝型IPMNと診断。膵頭十二指腸切除術施行。病理診断は慢性膵炎であった。術後問題なく，軽快退院となる。

【考察】膵嚢胞性病変の鑑別診断にはIPMN, MCT, SCT，仮性嚢胞, SPTなどがある。慢性膵炎後の仮性嚢胞はIPMNとの鑑別が困難なことがあり，注意が必要である。

自治医科大学附属さいたま医療センター　一般・消化器外科