



Serous Pancreatic Cystadenoma with Compression of Wirsung's Duct

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Abstract

Serous cystadenoma of the pancreas is a common cystic neoplasm typically of benign evolution that rarely communicates with the pancreatic ductal system. We present several images originating from two cases of serous cystadenoma of the pancreas which led to compression and dilatation of Wirsung's duct. These cases suggest that when the diagnosis of pancreatic microcystic lesion is detected, associated, or not associated with a central fibrous scar and a low carcinoembryonic antigen level in the aspirated fluid, the presence of dilatation of Wirsung's duct does not exclude the diagnosis of serous pancreatic cystadenoma.

Keywords Cystadenoma · Serous · Pancreas · Pancreatic ducts

Clinical Cases

Case 1 A 67-year-old female patient presented with malaise and fatigue for 8 months and had been recently diagnosed with diabetes mellitus. Abdominal magnetic resonance imaging (MRI) revealed a predominantly macrocystic multilocular cystic lesion measuring 5.8 × 5.8 cm in the pancreatic head with proximal dilatation of Wirsung's duct (6 mm) (Fig. 1). Pancreatic head resection (using the Kausch-Whipple procedure) was indicated based on the symptoms (Fig. 1). Anatomopathological examination confirmed the diagnosis of serous cystadenoma (SCA) of the pancreas (Fig. 1).

Case 2 A 72-year-old female patient with a history of colon adenocarcinoma was subjected to partial colectomy 3 years prior. Computed tomography (CT) of the abdomen scan revealed confluent cysts approximately 3.8 cm in size in the

pancreatic head. Endoscopic ultrasound examination revealed a multilocular cystic lesion (cysts less than 2 cm) with a central hyperechoic scar measuring 4.2 cm in its largest axis. Puncture of the cyst with a thin needle revealed amylase levels of 520 IU/L, carcinoembryonic antigen (CEA) levels of 1.6 ng/mL, and negative cytology for neoplastic cells. In the sixth year of follow-up, abdominal MRI revealed that the lesion size increased slightly (4.5 cm), and the diameter of Wirsung's duct was 7 mm (Fig. 2). The patient remained asymptomatic during clinical and radiological follow-up.

Discussion

SCA is a common cystic neoplasm that is characterized on imaging examination by a multilocular lesion containing numerous small cysts surrounded by a thin capsule. The association of this type of cyst with dilatation of Wirsung's duct (DWD) is infrequent and even considered rare, and it can generate diagnostic confusion with mixed duct or main duct intraductal papillary mucinous neoplasm (IPMN). DWD is always present in main duct IPMN.

SCA accounts for 16% of resected pancreatic cysts and greater than 30% of cysts diagnosed in clinical practice. Although it is considered an epithelial neoplasia, SCA typically does not produce mucin and does not communicate with the pancreatic duct. The lesions are benign and asymptomatic and present a benign clinical course in most cases. The number of patients subjected to surgical resection has decreased over the years based on the development of complementary

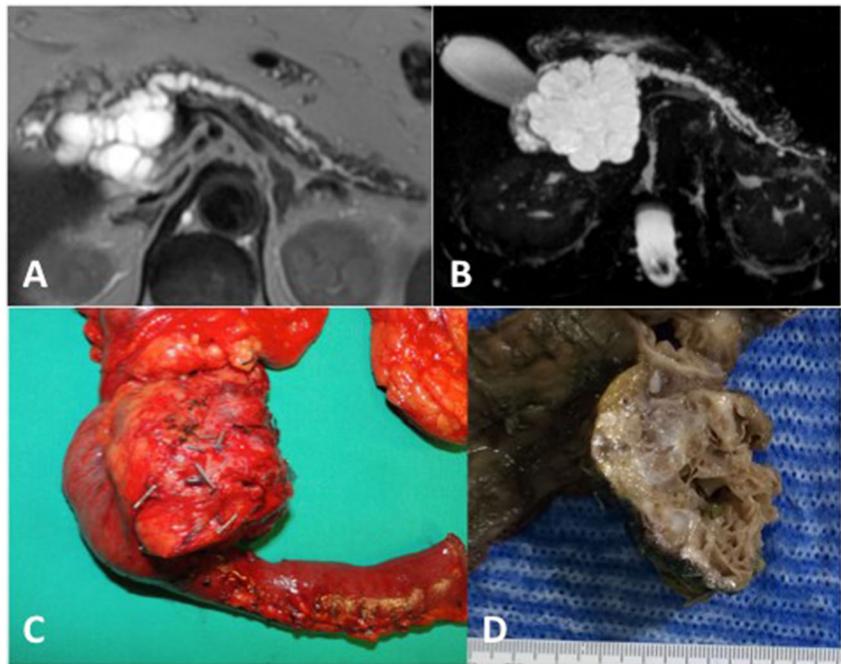
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Fig. 1 Abdominal MRI of patient 1 with T2-weighted sequences (a); axial T2-weighted MR hydrography exhibiting a macrocystic multilocular cystic lesion in the pancreatic head, promoting mild dilatation of the main pancreatic duct (b); surgical specimen (obtained by the Kausch-Whipple operation) demonstrating the cyst in the pancreatic head (c); and macroscopic anatomopathological examination revealing multiple small cysts after formalin fixation (microcystic lesion) (d)



imaging and endoscopic ultrasound examinations; diagnostic confusion with other types of cysts, particularly those present in mucinous cystic neoplasia, is currently the primary reason for surgery.

Recent study described the association between SCA and DWD. In the largest multi-center and multinational study involving 2622 patients diagnosed by anatomopathological examination, radiological examination, or analysis of the fluid aspirated from SCA, Jais et al. found that DWD occurred in 11% of cases.¹ The main problem of the association between SCA and DWD is that according to the Fukuoka

consensus, the diagnosis of main duct or mixed duct IPMN should be strongly considered for cystic pancreatic lesion associated with DWD. The surgical strategy for IPMN varies depending on the size of the duct, and these lesions are often considerably more aggressive given the risk of malignant transformation.² Therefore, from a practical point of view, the patients with SCA and DWD are at risk of being submitted to an unnecessary pancreatectomy, which is associated with high morbidity and mortality. In this sense, Crippa et al.³ evaluated a series of 93 patients with preoperative diagnosis of main duct or mixed duct IPMN subjected to surgical resection and found that the morbidity and mortality rates were 40 and 4%, respectively. Although the diagnosis of mixed duct or main duct IPMN was confirmed in most cases, anatomopathological examination indicated other benign lesions without immediate risk of malignancy in 15% of the cases, including two patients with SCA.³ Therefore, the acknowledgment that types of cysts other than mixed duct or main duct IPMN lead to DWD is essential for diagnosing pancreatic cystic lesions. In this scenario, particularly for large SCA, the presence of DWD may be caused by compression and non-communication with the pancreatic duct, and the type of treatment should be the same as that for SCA, in which the size of Wirsung's duct is normal.

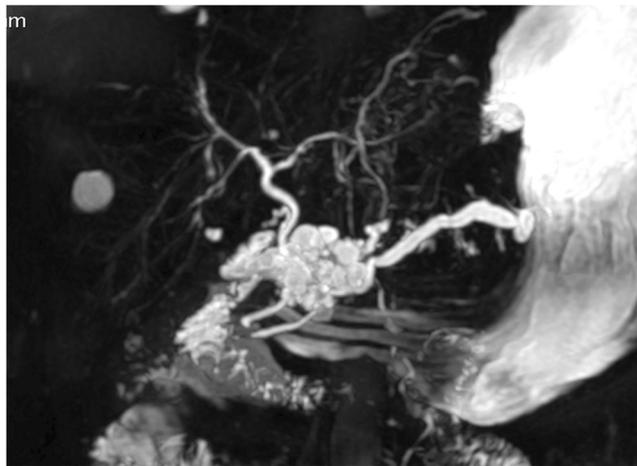


Fig. 2 Abdominal MRI of patient 2 with heavily T2-weighted hydrographic sequences revealing microcystic lesions in the pancreatic head and hyposignal within a star-shaped structure indicative of scarring, promoting mild dilatation of the main pancreatic duct

Author Contributions The idea for the manuscript was conceived by ECA and JRA. Data was collected by ECA. ECA, JRA, and AALL analyzed the data. ECA and JRA wrote the manuscript. All authors had responsibility for the scientific content of the manuscript and reviewed and edited the text.

References

1. Jais B, Rebours V, Malleo G, et al. Serous cystic neoplasm of the pancreas: a multinational study of 2622 patients under the auspices of the International Association of Pancreatology and European Pancreatic Club. *Gut*. 2015; 0:1–8
2. Tanaka M, Fernández-Del Castillo C, Kamisawa T, et al. Revisions of international consensus Fukuoka guidelines for the management of IPMN of the pancreas. *Pancreatology*. 2017; 17(5):738–753.
3. Crippa S, Pergolini I, Rubini C, et al. Risk of misdiagnosis and overtreatment in patients with main pancreatic duct dilatation and suspect combined/main-duct intraductal papillary mucinous neoplasms. *Surgery* 2016; 159(4):1041–1049.