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Case Report

Sub-branch and mixed-type intraductal papillary mucinous neoplasms of the pancreas: 2 case reports

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ABSTRACT

Intraductal papillary mucinous neoplasia (IPMN) is one of the cystic neoplasias of the pancreas. The imaging findings provide that these tumors are differentiated from the other cystic lesions of the pancreas, especially from the chronic pancreatitis, where the treatment protocol is completely different. Therefore, the correct diagnosis and classification of the IPMN ensures that the patient receives the correct approach and the appropriate surgery, if necessary. The purpose of this study is to emphasize the imaging findings of the different types of the IPMN and the changes in the management protocol of the patients according to these radiological findings.

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Introduction

Intraductal papillary mucinous neoplasia (IPMN) of the pancreas are the subgroup of neoplasms formed by mucinous cells that are located in the main pancreatic duct or in its branches. It is a premalignant disease also called mucinous ductal ectasia or ductectatic cystadenoma [1,2]. Different from the other common cystic lesions of the pancreas, there is no gender discrimination in IPMN, and it is most frequently observed in the sixth decade of life. Acute pancreatitis is defined as one of the main symptoms of

IPMN. It has been reported in different studies that the incidence of acute pancreatitis in patients with IPMN varies between 12% and 67% [3]. Patients have recurrent pancreatitis attacks and abdominal pain that are because of duct obstruction formed due to intense mucin production or tumor. The dilated ducts those are full of mucin show high T2 and variable T1-signal intensity in magnetic resonance (MR) depending on the fluid content of the mucin. The aim of this study is to present 2 patients who had IPMN diagnosis of different types and who had surgeries due to different imaging findings.

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Case 1

A 49-year-old male patient was admitted to our department with recurrent abdominal pain and was evaluated. The patient had been to another hospital 3 years prior with an abdominal pain complaint. In the blood analyses of the patient, the amylase and lipase values were observed as being elevated, and as a result, the patient was diagnosed with pancreatitis. In the ultrasonography (US), computerized tomography (CT), and MR examinations in that hospital, a cystic lesion was observed and was diagnosed as a pancreatic pseudocyst developed secondary to the pancreatitis attacks in the pancreas body. The patient was given treatment for pancreatitis and was followed up for a pancreatic pseudocyst diagnosis. The patient had MR and endoluminal US imaging performed in various hospitals and was controlled. However, meanwhile, the abdominal pain and pancreatitis attacks continued. The patient then was admitted to the general surgery department of our hospital with abdominal pain complaint. In the biochemical analysis of the patient, the amylase and lipase values were determined to be 1,800 U/L and 923 U/L, respectively. The other biochemical parameters were normal. No abnormalities were determined in the physical examination other than the pain that stretched along the epigastrium like a belt. When the physical examination and laboratory analyses were evaluated together, the patient was diagnosed with acute pancreatitis. The patient then was guided to our department for abdominal US evaluation. US examination was applied using Toshiba Aplio 500 2012 US device and 3.5 MHz pvt-375BT convex probe. In the US examination, it was determined that there was segmental cystic dilation causing lobulated contour of the size of

55 × 45 mm at the pancreatic duct on the body of the pancreas, associated with the dilated pancreatic duct, with thick septa in the periphery and solid nodular components that projected into the lumen, the largest of which was 13 × 12 mm in size; and in which no color fills or spectral flow forms were observed in colored Doppler US (Fig. 1). The pancreatic duct showed dilation that was up to 4.8 mm (Fig. 1D). Upon these findings, dynamic contrast abdomen MR and MR cholangiopancreatography (MRCP) were planned for further examinations. Dynamic contrast-enhanced MR examination of the upper abdomen was performed with the 1.5 Tesla General Electric MR device by using an abdominal coil. In dynamic MR, there was segmental cystic dilation causing lobulated contour of the size 55 × 45 mm at the pancreatic duct on the body of the pancreas. Segmental cystic dilation had solid nodular components in its periphery, projecting into the lumen, the largest of which was 13 × 12 mm in size; and containing septa, showing hypointense signal properties in T1-weighted (W) series and showing clear hyperintense signal properties in T2W series, whose nodular solid components were contrasted after paramagnetic contrast matter application (Figs. 2, 3). It was observed that the main pancreatic duct was dilated in the MRCP bulk proximally and distally; and it was also observed that, especially in the distal section, the dilation in the pancreatic duct continued in the form of millimetric expansions in the sub-branches. There were filling defects representing solid components in the cystic bulk lesion periphery (Fig. 4). The visual properties in the dynamic MR and MRCP were evaluated as being consistent with intraductal papillary mucinous neoplasia (IPMN).

The Whipple operation was performed on the patient. After the operation, the specimen was evaluated in terms of histopathology. In macroscopic examination, dilation in

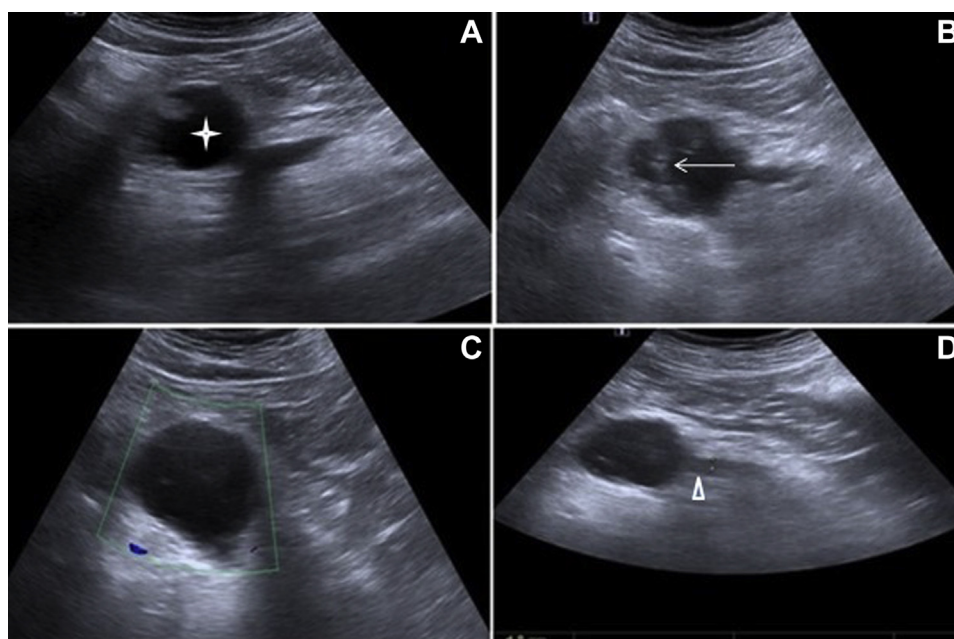


Fig. 1 – The segmental cystic dilation of the main pancreatic duct in the abdominal US (A, B) on the body of the pancreas, bordering the lobule, associated with the dilated pancreatic duct (asterisks); solid components projecting into the lumen in the periphery (long arrow). No flow was observed within the lesion in colored Doppler US (C). The main pancreatic duct is 4.8 mm in width (arrow head) in the US (D). The sub-branch dilation seen in the MR cannot be distinguished.

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