

MEDICAL IMAGE

Meandering Main Pancreatic Duct in a Case of Recurrent Acute Pancreatitis

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ABSTRACT

Meandering main pancreatic duct is an anatomical variant of main pancreatic duct, characterized by abnormal configuration of the duct in pancreatic head region. Meandering pancreatic duct can be underlying cause for recurrent pancreatitis. This less common variant can be easily diagnosed on imaging, particularly magnetic resonance cholangiopancreatography.

A 32 years old male patient presented with recurrent episodes of acute pancreatitis for last 2 years. Contrast enhanced magnetic resonance imaging (MRI) of the abdomen was performed with magnetic resonance cholangiopancreatography (MRCP) at the time of first episode, which showed necrotic collection in pancreatic head region. Main pancreatic duct was not well visualized on MRCP images due to compression by the collection. The patient was managed by percutaneous drainage of the collection. However the patient continued to have recurrent episodes of acute pancreatitis. MRI of the abdomen was again performed with MRCP to look for ductal anatomy. MRI of the abdomen was done on 1.5 tesla MRI scanner (Magnetom Aera, Siemens, Erlangen, Germany). Thick slab MRCP was Thick slab MRCP was acquired in coronal plane by breath-hold two-dimensional half-Fourier acquisition with single shot turbo spin echo (HASTE) (repetition time (TR)/echo time (TE) = 2000/150 ms; slice thickness = 40 mm). Pancreas was mildly reduced in bulk with prominent MPD, measuring ~3mm in head region. No peripancreatic collection was seen. Pancreaticobiliary junction was normal. However on MRCP images, MPD showed abnormal curvature with formation of a loop in head region (**Figure 1**).

Underlying cause for recurrent acute pancreatitis should be sought as it can lead to chronic pancreatitis. However approximately 20-30% cases of recurrent

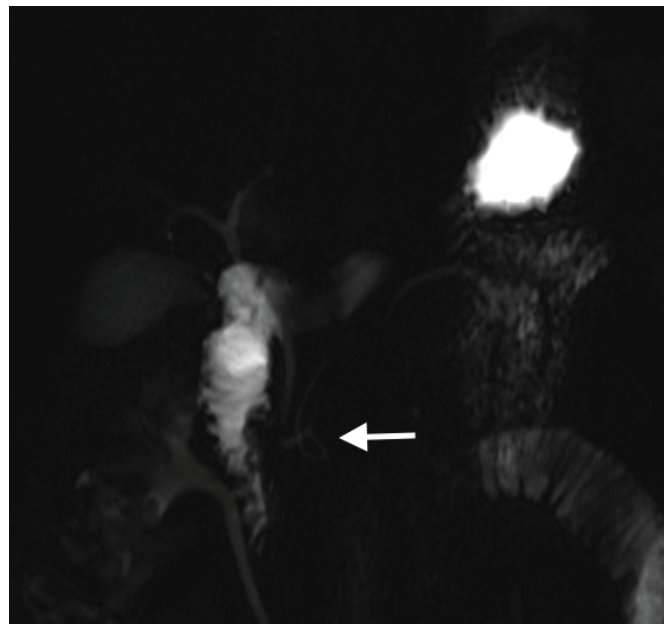


Figure 1. Thick slab MRCP image showing loop of MPD in region of pancreatic head (arrow).

acute pancreatitis are idiopathic [1, 2]. MRCP is a non-invasive diagnostic modality useful in depicting anatomy of pancreatic duct. Course of pancreatic duct is variable. Meandering MPD characterized by abnormal configuration of MPD in head region, is a less described variant of MPD. Two types of meandering MPD have been described: loop type (as in our case) and reverse Z or hairpin type [3]. Meandering MPD can be responsible for recurrent episodes of acute pancreatitis. In one study prevalence of meandering MPD in general population was found to be 2.2%, while its prevalence was 40% in cases of recurrent acute pancreatitis (p value <0.01) [3].

Though etiology of meandering MPD is not exactly known, it is thought to be analogue of developmental variants of pancreas [3]. Also the mechanism of pancreatitis in meandering MPD is not clear.

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Abbreviations MRCP magnetic resonance cholangiopancreatography; MRI magnetic resonance imaging
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Meandering MPD can be easily diagnosed on coronal projection images of MRCP. However the radiologist should be familiar with this lesser described variant and should pay attention to any variation in course and configuration of main pancreatic duct.

Conflict of interest

All the authors have no conflicts of interest

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