Intrapancreatic accessory spleen

A 60-year-old man presented chronic hepatitis C that had begun 6 years earlier was referred for abdominal magnetic resonance imaging for diagnosing cirrhosis and its complications.

Imaging Findings:

A 60-year-old man presented chronic hepatitis C that had begun 6 years earlier was referred for abdominal magnetic resonance imaging for diagnosing cirrhosis and its complications. The infection was first recognized during blood donor screening in this asymptomatic patient. Serologic test for hepatitis C was positive. Liver function tests results were all in normal limits except elevated ALT levels. The MR examination which was performed on a 1.5 T scanner (Intera, Philips Medical systems, the Netherlands) included breath-hold T2-weighted Single-Shot turbo spin echo in transverse and coronal planes, fat-saturated T2-weighted turbo spin echo, unenhanced T1-weighted turbo field echo, dynamic contrast-enhanced T1-weighted turbo field echo and postcontrast T1-weighted turbo field echo sequences in transverse plane. MR images showed a mass in the tail of pancreas that had high signal intensity on T2 weighted images to pancreatic parenchyma, and low signal intensity on unenhanced T1 weighted images. The mass had similar signal intensity to spleen on all unenhanced MR sequences. The enhancement pattern of the lesion was also similar to spleen at all phases of dynamic contrast-enhanced MR scans. Although the patients pancreas was evaluated normal in appearance at previous sonographic examinations, sonograms obtained after abdominal MR imaging showed a mass in distal pancreas with almost similar echotexture to spleen. A diagnosis of intrapancreatic accessory spleen was suggested, and the patient was advised scintigraphy using 99mTc sulfur colloid. The scan demonstrated the accessory spleen located in the tail of pancreas.

Discussion:

The spleen arises from mesenchymal cells between the layers of the dorsal mesogastrium during the fifth gestational week. Accessory spleens result from the failure of coalescence of individual clumps of mesenchymal cells to comprise the spleen during embryological period of development, which are found in up to 30% of autopsies. As it is a congenital condition, it locates within the embryological dorsal mesentery of the stomach and pancreas (3,4). The most common site is splenic hilum in gastroepiploic ligament (1). The pancreatic tail is an expected site for accessory spleen (5). Mesentery, omentum and peritoneum are other rare sites. They may even be found attached to the left ovary or within the scrotum. It is usually smaller than 1 cm and is not larger than 2 cm in diameter (6). It may be single or multiple (1). Most of them are asymptomatic, but pain and nausea have been reported (7-11). Splenosis, which is an acquired condition, is a distinct entity than accessory spleen. It is an autotransplantation of splenic tissue to other sites following traumatic insult or surgical manipulation of spleen. Implantation of splenic tissue may occur in diaphragmatic surface anywhere in the abdomen, pelvis or pleura (4). They range in size from a few millimeters to 3 cm (6). There are only a few case of intrapancreatic accessory spleen
diagnosed by MRI in the literature (12). Different noninvasive imaging modalities including abdominal US, CT, and MR imaging are used to diagnose, to evaluate the characteristic location and imaging findings of the lesion. The key to the diagnosis is suggested by the similar appearance to the spleen with all modalities (8,10,11). At MR imaging, it can be characterized by the use of various nonenhanced T1 and T2-weighted and fat suppressed T1-weighted dynamic post-gadolinium sequences. Scintigraphy is the most specific tool for diagnosing functioning ectopic splenic tissue. Technetium 99m sulfur colloid scans are most commonly used, but its spatial resolution is very low. Also, it may not demonstrate uptake (13,14). The differential diagnoses of a mass in the tail of pancreas that would be considered include neuroendocrine tumors, hypervascular metastases and pancreatic carcinoma. These conditions can be ruled out by radiological and laboratory findings, and clinical history of the patient. Recently the use of iron oxide MR contrast agents, which accumulate in the spleen (and liver), has been advocated for diagnosis of intrapancreatic accessory spleen (or splenosis). As these tumors usually are curable by means of resection, recognition of intrapancreatic accessory spleen is important to avoid the unnecessary surgery. A diagnosis has to be sought by biopsy or scintigraphy or by imaging.

**Differential Diagnosis List:** Intrapancreatic accessory spleen

**Final Diagnosis:** Intrapancreatic accessory spleen

**References:**


Description: Figure 1. Transverse (a) and coronal (b) free breath T2-weighted single-shot turbo spin echo abdominal MR images. The mass in the tail of pancreas is hyperintense to the pancreatic parenchyma and liver, mildly hyperintense to the renal cortex but isointense to the spleen. Origin:
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Description: Figure 2. Transverse fat saturated T2-weighted single-shot turbo spin echo abdominal MR image. The mass has similar signal intensity to the spleen without any signal drop. It is still hyperintense than the surrounding pancreatic parenchyma. Origin:
Figure 4

Description: Figure 3. a) Breath-hold fat-saturated T1-weighted unenhanced turbo field echo b,c) Breath-hold dynamic contrast enhanced fat-saturated T1-weighted 3D turbo field echo, and d) breath hold postcontrast transverse fat-saturated T1-weighted 3D turbo field echo transverse abdominal MR images. During and after the intravenous administration of Gd DTPA, the enhancement pattern of the mass saves its similarity to spleen in all phases. Origin:
**Figure 5**

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**Description:** Figure 4. Gray-scale sonogram shows a mass in distal pancreas (arrow) with almost similar echotexture to spleen. **Origin:**