A Case of Intrapancreatic Accessory Spleen Mistaken as a Pancreatic Mass due to Different Enhancing Pattern from Normal Spleen

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Most cases of accessory spleen show similar features as normal spleen in imaging studies. However, some accessory spleen has unusual scan feature which can be misdiagnosed. We present a case of intrapancreatic accessory spleen that was discovered incidentally during a workup for abdominal pain in a 47-year-old woman. CT and MRI revealed a different enhancing pattern from that of the spleen. Further evaluation with endoscopic ultrasonography failed to identify the pancreatic mass. Therefore, it was surgically removed and diagnosed pathologically as an accessory spleen. (Korean J Gastroenterol 2011;58:357-360)

Key Words: Accessory spleen; Pancreas; Pancreatic neoplasms

INTRODUCTION

Although the tail of the pancreas is the second most common site for an accessory spleen, intrapancreatic accessory spleen (IPAS) is often not recognized or mistaken for other pancreatic lesions. IPAS exhibits a similar enhancing pattern as the spleen, but this can be altered in some clinical conditions. When IPAS presents an unusual enhancing pattern, it can be confused with other pancreatic tumors that have malignant potential and thus should be identified pathologically.

CASE REPORT

A 47-year-old woman presented to the hospital with right upper quadrant abdominal pain. She is sexually active and has had an intrauterine contraceptive device for 10 years. She had no other surgical history. She did not smoke or drink alcohol. She exhibited an acute ill-looking appearance and complained of right upper quadrant abdominal pain. Tenderness was noted in the painful area, but no rebound tenderness existed. Her total white blood cell count was 10,570/mm³, 65% of which were neutrophils. Other laboratory parameters of blood, including glucose, transaminase, alkaline phosphatase, and bilirubin, were normal.

To evaluate the abdominal pain, CT with contrast enhance-
Fig. 1. CT with contrast enhancement of the patient. A 1 cm-sized, oval-shaped, and well-enhanced mass was detected in the tail of the pancreas. (A, B) The pancreatic tail mass exhibited a different enhancement pattern in the arterial phase compared to that of the spleen (arrows). (C, D) In the delayed phase, the pancreatic mass was highly enhanced and distinguished from the surrounding pancreatic parenchyma (arrows).

DISCUSSION

A mass detected in the tail of the pancreas should be distinguished from SPEN, mucinous cystic neoplasm, neuroendocrine tumor, intraductal tubular carcinoma, and other metastatic tumors. A variety of nonneoplastic masses can exist in the pancreas. Up to 5% of surgically removed pancreatic masses prove to be nonneoplastic on pathologic examination. These nonneoplastic space-occupying lesions are called pseudotumors.
As one of the pseudotumors, the accessory spleen arises from the failure of fusion of the splenic anlage during the fifth week of fetal life.\(^4\)\(^,\)\(^5\) It is a relatively common defect observed in 10-30% of cases in postmortem studies.\(^5\) The tail of the pancreas is the second most common location for accessory spleens, with an incidence of 16.8% (36 of 164) as reported in a previous study.\(^5\) It is important to characterize IPAS noninvasively because it rarely causes a clinical problem and the treatment is only required in a complicated case.

IPAS is structurally identical to the normal spleen, consisting of red and white pulps. The red pulp is composed of numerous vascular sinuses. Between these sinusoidal structures, lymphoid follicles and reticuloendothelial systems (RES) form the white pulp. The heterogeneous enhancement features of IPAS result from these components and can be altered by their ratio.\(^6\)
SPEN is an uncommon low-grade pancreatic neoplasm that has relatively larger size (mean diameter of 9 cm). It tends to show hemorrhage, necrosis with cystic change, and encapsulation on radiologic images. Mucinous cystic neoplasm is more likely to be larger with a multiloculated cystic architecture and may contain cystic and hemorrhagic areas. Most of the pancreatic endocrine neoplasms result hormone-related symptoms and they demonstrate ring-like enhancement. Ductal carcinoma of the pancreas usually invades the ampulla and cause obstructive biliary symptoms. So, the 1 cm-sized, solitary, solid, heterogeneously enhanced, and asymptomatic pancreatic mass in this case should be considered as an IPAS.

Superparamagnetic iron oxide (SPIO)-enhanced MRI can facilitate the diagnosis of IPAS. The SPIO-based contrast medium is specifically targeted to RES cells. IPAS exhibits a similar signal drop to that of the spleen in T2-weighted images. It is distinguished from the surrounding pancreatic parenchyma that has lower signal intensity.

Radionuclide scan with Technetium-99m heat-damaged red blood cells or indium-labeled autologous platelets has been used to diagnose accessory spleen. They also can be used to diagnose IPAS. When trapped in splenic tissue, they help identifying an accessory spleen in the pancreas. But, those specific diagnostic tools described above were not feasible to our hospital, so they could not be performed on this case. If the mass were a SPEN or a neuroendocrine tumor, it had to be removed surgically. The mass was in the distal portion of the pancreatic tail, and it was easily removed via laparoscopic surgery. Spleen-preserving distal pancreatectomy was performed, and the mass was identified as an accessory spleen on pathologic examination.

Although the imaging modalities are improving regarding the diagnosis of pancreatic masses, these masses can be misdiagnosed in clinical practice. Here, we report a case of IPAS that did not exhibit sufficient radiological specificity, requiring pathological diagnosis made with laparoscopic surgery.

REFERENCES