

**Case Reports / Olgu Sunusu**

**Radiologic findings of intrapancreatic accessory spleen**

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**ABSTRACT**

**Introduction:** Accessory spleen is an anomaly that observed in about 10% of individuals by the autopsy study, and the most of the accessory spleens are located close to the splenic hilum. Although the accessory spleen is a frequently encountered entity, intrapancreatic accessory spleen (IPAS) is rarely recognized radiologically and which is sometimes misdiagnosed pancreatic neoplasms. We present a case of IPAS which radiologically mimicking a pancreatic tumor in the tail of the pancreas.

**Case report:** A 45 year-old man who presented with abdominal pain scanned with abdominal US, CT and MRI. On US a well defined hypoechoic mass, measuring 10x12 mm in diameter that was located in the tail of the pancreas. Enhanced CT showed a well-defined and homogeneously enhanced tumor, about 10 mm in size in the tail of the pancreas. A well-defined 10 mm, solid, enhancing mass was identified on MR images, and for all sequences, was of similar signal intensity as that of the spleen.

**Discussion:** Accessory spleen is a congenital abnormality consisting of normal splenic tissue in ectopic sites. They are found most commonly near the splenic hilum. One in every six accessory spleens is located in the tail of the pancreas. The diagnosis of an IPAS should be considered when a pancreatic mass has the CT densities and/or MRI signal intensities similar to those of the spleen, with and without contrast medium.

**Key words:** accessory spleen, pancreas, ultrasound(US), computed tomography(CT), magnetic resonance imaging (MRI)

## INTRODUCTION

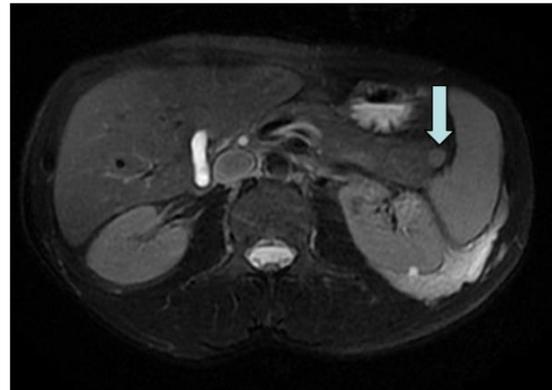
Accessory spleen is a congenital anomaly that was seen up to 30% in unselected autopsy cases. The most common location of accessory spleen is splenic hilum. Almost 20% of them may be in or near pancreas tail and may mimics pancreatic hypervascular tumor radiologically. We report a case of accessory spleen located in the tail of pancreas with ultrasonography (US), computed tomography (CT) and magnetic resonance imaging (MRI) findings.

### Case report:

A 45 year old male patient presented with abdominal pain scanned with abdominal US. On US, a round solid hypoechoic mass 10x12 mm in size which was located in the tail of pancreas was detected. All laboratory values were normal. Because of the suspicion of islet cell tumor of pancreas, abdominal CT and MRI were performed. Around mass with isoattenuation to spleen and remainder of the pancreas located in the tail of pancreas was seen at the portal venous phase on contrast enhanced CT (Figure 1). On MRI, a round mass isointense with spleen (Figure 2-5) in all the sequences was detected. After intravenous contrast material administration, the mass had the same enhancement characteristics with spleen (Figure 6). The diagnosis was accessory spleen which was located at the tail of pancreas.



**Figure 1:** Portal venous phase of contrast enhanced axial CT: a nodular, round mass located at the tail of the pancreas is seen (arrow).



**Figure 2:** Axial FATSAT T2-weighted MRI: A mass located at the tail of pancreas isointense with spleen is seen (arrow).



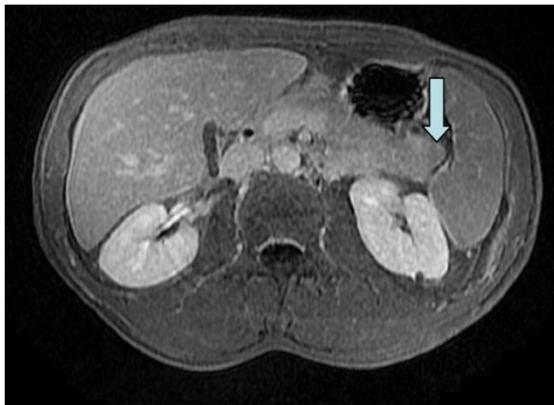
**Figure 3:** Axial 2D FIESTA FATSAT sequence of MRI: Accessory spleen located at the tail of pancreas is seen (arrow).



**Figure 4:** Coronal T2-weighted MRI: Accessory spleen located at the tail of pancreas isointense with spleen is seen (arrow).



**Figure 5:** Axial FATSAT T1-weighted MRI: accessory spleen which can be well differentiated from pancreatic tissue is seen (arrow).



**Figure 6:** Postcontrast axial FATSAT T1-weighted images of MRI: Accessory spleen, shows the same characteristic enhancing pattern with spleen is seen (arrow).

## DISCUSSION

Accessory spleen is defined as existing of duplicate splenic tissue at a heterotopic location and that results from the fusion failure of splenic anlage that located in the dorsal mesogastrium to fuse (1). Accessory spleen is mostly found as a round solid mass near the splenic hilum (2). The mean size is usually 1- to 15 mm in diameter. Although accessory spleen is a common finding, intrapancreatic accessory spleen (IPAS) is diagnosed rarely. So it may confuse with islet cell tumor of pancreas, adenocarcinoma, solid pseudopapillary tumor, adenoma and metastases of pancreas. (3,4)

Epidermoid cysts which were developed from intrapancreatic accessory spleen were reported in the literature (2,5-7).

Because the attenuation of the spleen is higher than that of the pancreas, IPAS is usually more enhanced than pancreas on all the dynamic CT phases (8).

On both CT and MRI, IPAS has same density and intensity with spleen typically and after intravenous contrast administration similar enhancement pattern with spleen is diagnostic for IPAS (3,6,9,10). On MRI, the signal intensity of IPAS was hypointense on the T1-weighted images and hyperintense on T2-weighted images compared to surrounding pancreatic parenchyma, which are the same as that of spleen.

Technetium 99m sulphure colloid scintigraphy is a imaging choice to confirm the diagnosis. Technetium 99m heat-damaged red blood cells scintigraphy, combined with single photon emission computed tomography is highly sensitive and specific method for detection of splenic tissue in the pancreas (11). Superparamagnetic iron oxide (SPIO)-enhanced MRI is an alternative imaging method to confirm IPAS (12).

The most of the IPAS's are asymptomatic. IPAS should be differentiated from pancreatic neoplasms such as islet cell tumor of pancreas, adenocarcinoma, solid pseudopapillary tumor, adenoma and metastases of pancreas.

Although the diagnosis of IPAS is not so difficult, distinguishing IPAS from pancreatic neoplasm is essential to avoid unnecessary intervention or surgery.

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