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A Case of İntrapancreatic Accessory Spleen Mimicking a Pancreatic Metastasis on the ^{18}F-FDG PET/CT Scan: A Case with Breast Cancer

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Abstract

The accessory spleen is a focus of splenic tissue which is separated from the main of the spleen. Although accessory spleens are generally recognized on computed tomography (CT), intrapancreatic accessory spleen (IPAS) may be mistaken for other pancreatic tail lesions. We report a case of IPAS mimicking a pancreatic metastasis on the ^{18}F-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT). A 41-year-old with diagnosed breast cancer (invasive ductal carcinoma) woman patient underwent an ^{18}F-FDG PET/CT for metastasis screening and staging. ^{18}F-FDG PET/CT showed a focal uptake in the pancreatic tail. The patient underwent a contrast-enhanced CT and magnetic resonance imaging (MRI) for lesion characterization. The density and intensity of lesion were similar to spleen on all phases and all sequences. The lesion was evaluated as IPAS. The diagnosis was confirmed by endoscopic ultrasound (EUS) biopsy. A case of IPAS positive at ^{18}F-FDG PET/CT could not found in the literature. We present a case of IPAS mimicking a pancreatic metastasis positive at ^{18}F-FDG PET/CT.

Keywords
- Intrapancreatic accessory spleen
- FDG PET/CT
- Pancreatic metastasis

Introduction

Accessory spleens are present in approximately 10 percent of the population. One in 6 cases appears in the pancreatic tail.[1,2] Although accessory spleens are generally recognized on computed tomography (CT), intrapancreatic accessory spleen (IPAS) may be mistaken for other pancreatic tail lesions. IPAS are hypervascular. Other intrapancreatic hypervascular lesions are metastases and especially neuroendocrine tumors. Pancreatic metastases are seen rarely. Among all pancreatic malignancies, its incidence is 2 to 5%. The most common primary tumors causing metastasis are as follows: renal cell carcinoma (RCC), melanoma, breast cancer, lung cancer, gastric cancer, colorectal carcinoma (CRC), etc.[3,4] The enhancement pattern of metastatic lesion generally resembles a primary tumor. However, IPAS is isointense and isodense with the spleen in all phases and in all sequences. ^{18}F fluorodeoxyglucose positron emission tomography (FDG PET) scan shows normal physiologic ^{18}F FDG uptake in the spleen. We present a case of IPAS positive at ^{18}F FDG PET.

Case Presentation

A 41-year-old with diagnosed breast cancer (invasive ductal carcinoma) woman patient underwent a ^{18}F-FDG PET/CT for metastasis screening and staging. ^{18}F-FDG PET/CT showed a focal uptake in the pancreatic tail (►**Fig. 1**). CA 125, CA 19–9, alphafetoprotein (AFP), and carcinoembryonic antigen (CEA)

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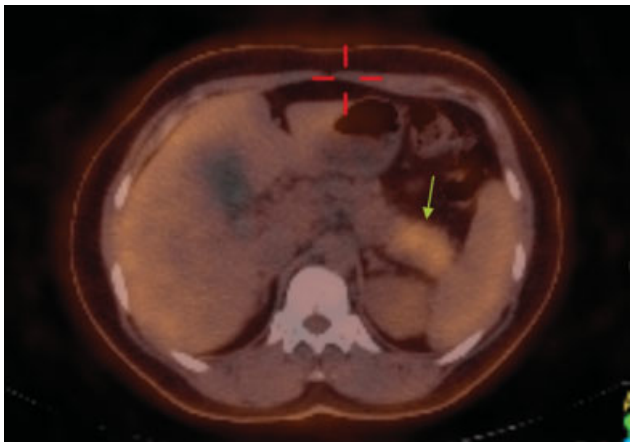

Fig. 1 ^{18}F-fluorodeoxyglucose positron emission tomography (FDG PET)/computed tomography (CT) shows a focal uptake in the pancreatic tail.

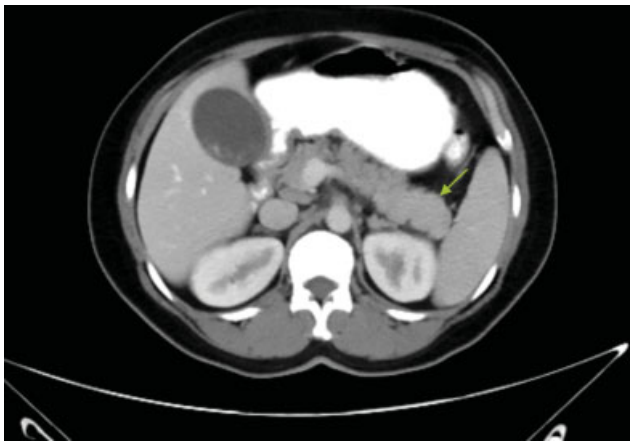

Fig. 2 The density of lesion was higher than that of the pancreatic parenchyma and similar to that of the spleen on the venous phase contrast-enhanced abdominal computed tomography (CT).

were within the normal limits. The patient underwent a contrast-enhanced CT and magnetic resonance imaging (MRI) for lesion characterization. The density of lesion was higher than that of the pancreatic parenchyma and similar to that of the spleen on the venous phase contrast-enhanced abdominal CT (►**Fig. 2**). At the same time, the intensity of lesion was similar to spleen on the T1- and T2-weighted images (►**Fig. 3**). The lesion was evaluated as intrapancreatic accessory spleen. Diagnosis was confirmed by endoscopic ultrasound (EUS) biopsy.

Discussion

Accessory spleen is a focus of splenic tissue which is separated from the main of spleen.[5] Splenic hilus is the most common localization of accessory spleen tissue. This is followed by the pancreatic tail. In an autopsy study, the accessory spleens were detected in the pancreatic tail at a rate of 17%.[1] The accessory spleen is that located in the pancreas and may mimic a pseudopapillary neoplasm or an islet cell tumor.[5–8] In addition, it may mimic pancreatic metastasis in patient with primary tumor as seen in our case.

Accurate diagnosis of IPAS is very important to prevent unnecessary surgical treatments. IPAS are generally well-defined and round on ultrasonography. The echogenicity of IPAS is homogenous and similar to spleen. The CT view of the accessory spleen is characteristic. It is a round and well-defined mass. Homogeneous enhancement is another feature on the contrast-enhanced images. Similar features are seen also on MRI. Intensity of IPAS is similar to spleen on all sequences.

Nuclear scintigraphy imaging is the most specific method to determine splenic ectopic tissue. Technetium-99m (^{99}Tc^{m}) heat-damaged red blood cell scintigraphy (HDRBC) and ^{99}Tc^{m} sulfur colloid are used. Most of the injected HDRBC is trapped by the splenic tissue. Thus, the splenic tissue is adequately visualized.

EUS-guided fine-needle aspiration (FNA) biopsy is required in the diagnosis of suspected pancreatic lesions. It is very sensitive.

In conclusion, when an intrapancreatic lesion is detected, IPAS should be considered in the differential diagnosis. In particular, intrapancreatic lesions that are similar to the density and intensity of the spleen should be considered as the accessory spleen.

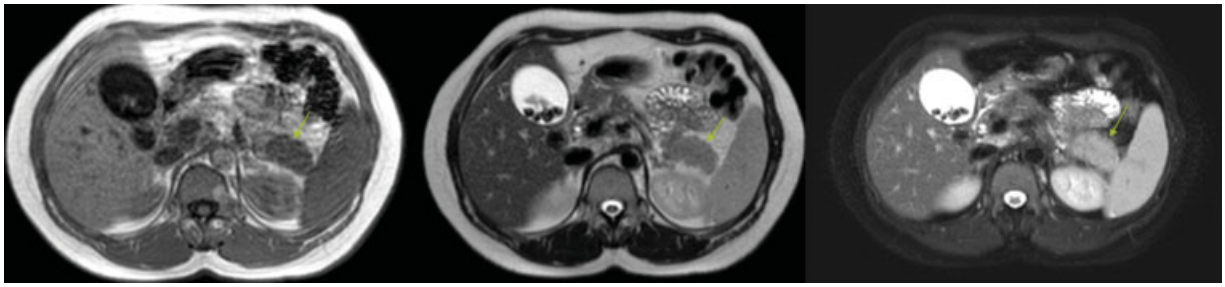

Fig. 3 The intensity of lesion was similar to spleen on the T1-weighted gradient-echo (GRE) in-phase, T2-weighted image, and T2 fat-saturated sequence.

Conflict of Interest
None declared.

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