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CASE REPORT OPEN ACCESS

Lymphoma Mimicking Pancreatic Adenocarcinoma: A Case Report

Serkan Ünlü · Ayşegül Sağır Kahraman · Serkan Öner
Department of Radiology, Health Ministry, Malatya State Hospital, Malatya, Turkey

Background: Pancreatic lymphoma is very rare and occurs below <1%. Because clinical signs and symptoms are similar to pancreatic adenocarcinoma, diagnosis of pancreatic lymphoma is usually very difficult. We aimed to present Magnetic Resonance (MR) findings of a pancreatic lymphoma mimicking pancreatic adenocarcinoma.
Case Presentation: The case was pathologically diagnosed as Diffuse B-cell lymphoma and there were no jaundice findings. Obstruction was not present in the structure other than being pushed into the veins. There was a diffusion restriction without necrosis with low ADC values parallel to increased cellularity. Apart from these, the table in the distinction between lymphoma and adenocarcinoma is helpful in other findings.
Conclusion: It is useful to know that MRI and diffuse MRI in pancreatic lymphoma may provide useful information as well as diffuse restriction in both due to adenocarcinoma and lymphoma elevated cellularity.

Introduction

Malignant tumors of the pancreas are largely adenocarcinomas. Non-Hodgkin's lymphoma (NHL) is often caused by the lymphatic system. In the NHL, the gastrointestinal tract is the area of extranodal involvement (1). Pancreatic lymphoma is very rare and occurs below <1%. Because clinical signs and symptoms are similar to pancreatic adenocarcinoma, diagnosis of pancreatic lymphoma is usually very difficult (2). We aimed to present Magnetic Resonance (MR) findings of a pancreatic lymphoma case micking pancreatic adenocarcinoma.

Case Presentation

Magnetic Resonance Imaging (MRI) was performed for the differential diagnosis of a massive lesion with no contrast enhancement, which was hypodense compared to pancreas parenchyma in dynamic liver CT uncontrolled and post contrast all phases. With MRI, T_1A and T_2A coronal images of the patient were obtained, and diffusion and IV contrast post-dynamic images were obtained.

Dynamic pancreatic MR examinations were performed with the diagnosis of abdominal pain and mass on the abdomen, and a lobular

Corresponding Author: Serkan Unlu, MD; Department of Radiology, Health Ministry, Malatya State Hospital, Malatya, Turkey
E-mail: serkanunlu19@yahoo.com
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contoured mass irregularly limited hypodense lesion (Figure-1) in the CT examination.

Table-1. Radiological comparison of Lymphoma and Adenocarcinoma

Findings	Lymphoma	Adeno Carcinoma
FST1AG Spotted Hyper Intensities	Never	Rare
T2AG Target Mark	Rare	Often
Dilation of the main Pancreatic Duct	Sometimes	Often
Dynamic Pancreas MRI in Pancreatic Phase	Never	Rare
Homogeneous Enhancement In Equilibrium Phase In Dynamic Pancreas MRI	Sometimes	Rare
Target Mark In Pancreatic Phase and Equilibrium Phase In Dynamic Pancreas MRI	Rare	Usually
Late Phase Contrast Enhancement in MRI	Often	Rare
Multifocal Lesion	Sometimes	Rare
Other Organ Involvement	Never	Usually
Lymphadenopathy at the level of the Left Renal Vein	Sometimes	Rare

T_2x hyper intense (Figure-3), T_2A hyper intense (Figure-3), duodenum compression and adjacent vascular structures surrounding the main portal vein and celiac trunks, and heterogeneous contrast at late phase in post contrast study with lobulated contour showing involvement (Figure-4). The described lesion included areas showing diffuse restriction in diffusion imaging (Figure-5).

Figure-1. Hypodense homogeneous space-occupying solid lesion is seen in pancreas head in unenhanced CT

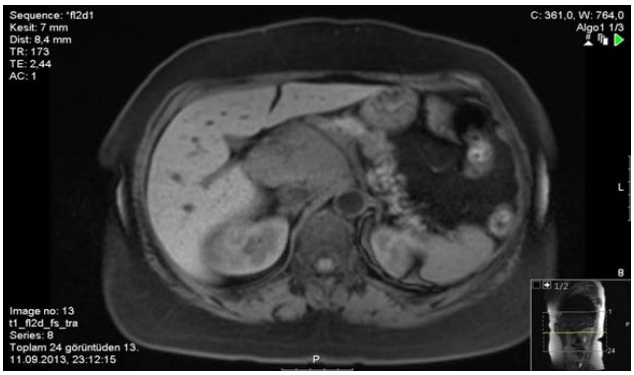

Figure-2. Pancreas head localization shows 8x5 cm size of pancreatic head with significant enlargement and a mass with T_1A hypointense mass covering the main portal vein and neighboring vascular structures surrounding celiac trunk and duodenum compression

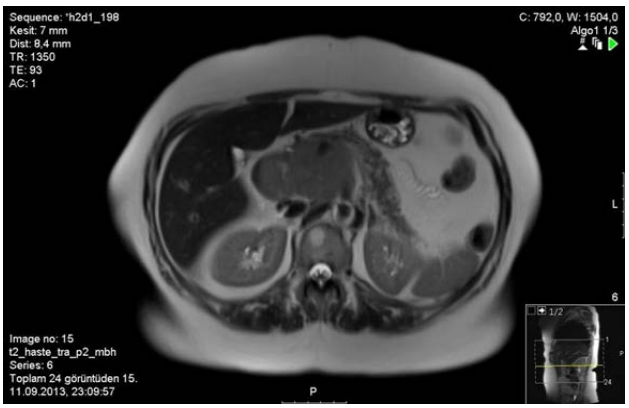

Figure-3. A solid mass of 8x5 cm in the pancreas head localization, a T_2A hyper intense localized mass that causes duodenum compression and adjacent vascular structures causing significant size increase at the pancreatic head

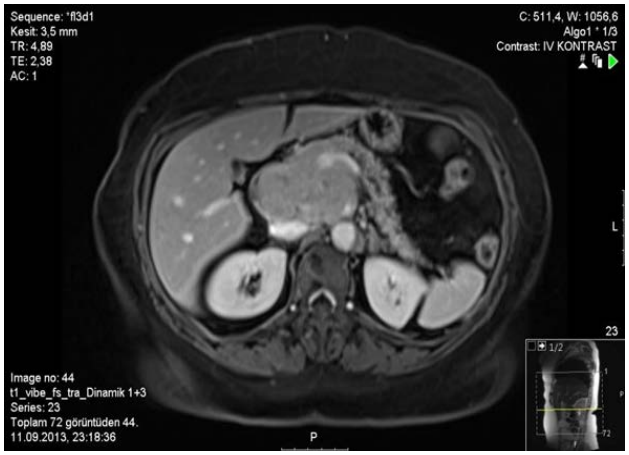

Figure-4. Post contrast study shows heterogeneous contrast enhancement in late phase

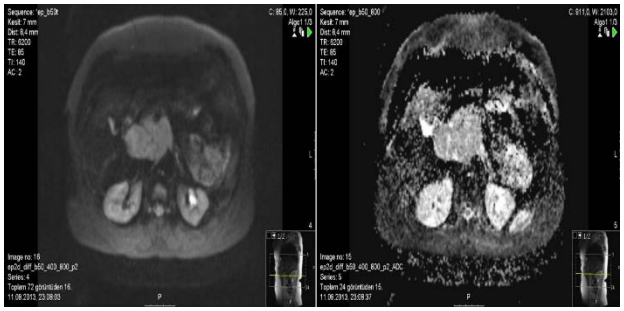

Figure-5 (a / b): The lesion on the head of the pancreas shows diffuse restriction in diffusion imaging.

Discussion

Pancreas-secreting lymphoma is rare, with an extranodal involvement of less than 1% (2). There are various pathologic subtypes such as primary pancreatic lymphoma follicular lymphoma, diffuse large B-cell lymphoma, mucosal-associated lymphoma and T-cell lymphoma. Clinical signs and symptoms are very similar, but it is an important finding that the pancreatic lymphoma is uneventful without jaundice (3). Our case was pathologically diagnosed as Diffuse B-cell lymphoma and there were no jaundice findings. Hypodense is seen as shomogen solid lesions in the non-contrasted sections. MRI is also seen in two types. In T1AGs, the signal intensity is a well-defined homogeneous mass with low signal intensity and heterogeneous signal increases in mild to moderate T_2AG. In the second type, low signal intensities are seen on T_1W and T_1W T_2W according to the pancreatic gland and mild moderate contrasting is seen on contrast-enhanced examinations (1). The current case was more compatible with the first type and showed moderate contrast enhancement in late venous phase. Adenocarcinoma should be considered primarily in the differential diagnosis of pancreatic lymphoma. In a single primer pancreatic lymphoma the mass is usually larger than a typical adenocarcinoma. Adeno carcinoma rarely causes vessel stenosis or occlusion (1). In our case, obstruction was not present in the stricture other than being pushed into the veins. Diffusion-weighted imaging may vary with the cognitive necrotic areas it contains in pancreatic adenocarcinoma. Low ADC values depend on the fibrotic component and high cellularity it contains and cause restriction in the diffusion. Necrotic areas are a more common finding in angina pancreatic adenocarcinoma (4). In our case, there was diffusion restriction without necrosis with low ADC values parallel to increased cellularity. Apart from these, the table in the distinction between lymphoma and adenocarcinoma is helpful in other findings (3).

Conclusion

Although pancreatic lymphoma is very rare, it should be kept in mind in differential diagnosis in patients with a limited number of well-defined homogeneous internal structures and late phase contrast enhancement, vascular versus ductal obstruction, and clinical absence of jaundice. Biopsy is necessary for definitive diagnosis. It is useful to know that MRI and diffuse MRI in pancreatic lymphoma may provide useful information as well as diffuse restriction in both due to adenocarcinoma and lymphoma elevated cellularity.

Conflict of Interests

The authors declare that they have no conflict of interest in the current study.

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