*Molecular Oncologic Imaging 2024;4(1):07-10* *ISSN: 2791-965X*

# Pancreatic involvement of Lymphoma as determined by F-18 Fluorodeoxyglucose Positron Emission Tomography/Computed Tomography

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**Abstract**

The most important imaging modality in the Lymphoma is F-18 FDG PET/CT. Although pancreatic involvement of Lymphoma is rare this is the report of three cases with diagnosis of Lymphoma who has pancreatic involvement as well as disseminated disease presentation as demonstrated by F-18 FDG PET/CT.

***Keywords*****:** *pancreas involvement, lymphoma, fluorodeoxyglucose, positron emission tomography/computed tomography.*

## Introduction

Although pancreatic involvement of the Lymphoma is rare in case of h1ypermetabolic lesions on the pancreas in a patient with diagnosis of Lymphoma it should be considered. Diffuse FDG uptake in the enlarged pancreas might be associated with autoimmune pancreatitis which is characterized by inflammation of the pancreas (1). There is several case reports about the disease progress in the literature including cases with pancreatic and extrapancreatic disease presented with FDG PET/CT results (1-5). However pancreatic involvement of Lymphoma might be presented in several imaging characteristics in FDG PET/CT as analyzed in a case series previously in the literature (6). The aim of this analysis of this specific case series was to evaluate the FDG PET/CT as well as clinical findings in this group of patients.

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**Case 1:** A male patient at the age of 73 years who was firstly diagnosed with multiple cervical and abdominal lymph nodes was referred for FDG PET/CT examination. The imagings showed disseminated disease with lymph node, bone marrow and spleen involvement as well as diffuse hypermetabolic swelling of pancreas (Figure 1). The patient died within a week after imaging examination.

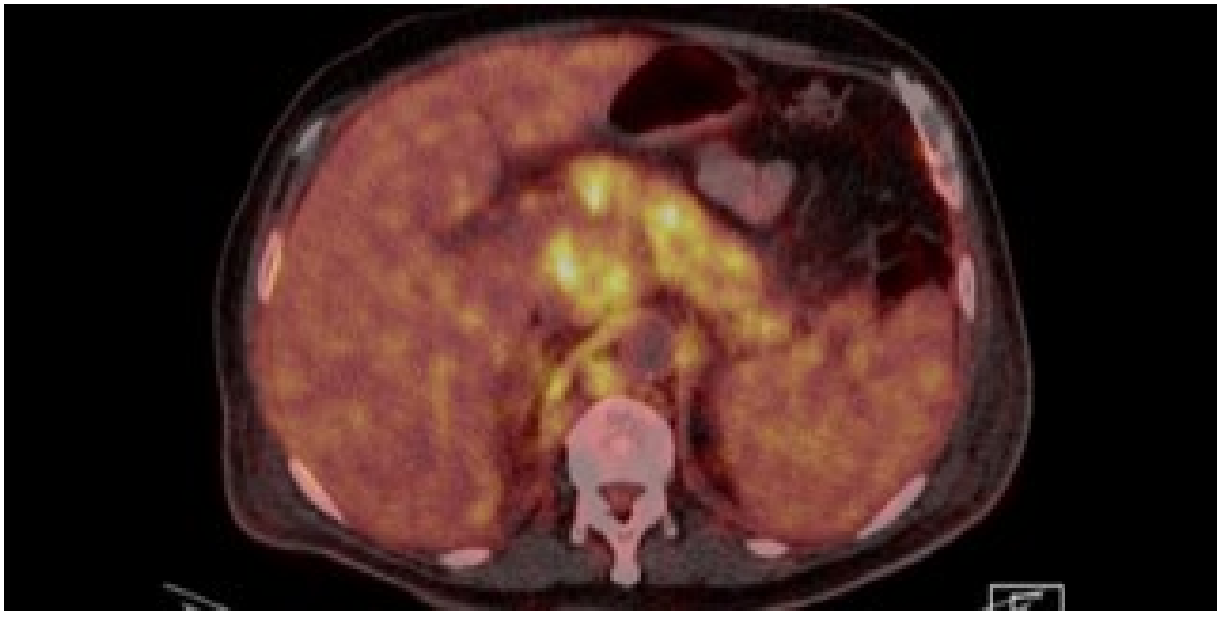

**Figure 1**: Lymph nodes, bone marrow and spleen, and widespread involvement of the pancreas are observed.

**Case 2:** 62 years old male patient with the diagnosis of Mycosis Fungoides attended for FDG PET/CT imaging for restaging after chemotherapy. The imaging revealed disseminated disease with lymph node and bone marrow involvement and additional cutaneous lesions with diffuse pancreas enlargement and FDG uptake (Figure 2). The IgG level of the patient was normal. The patient died one month after the imaging.


**Figure 2:** Diffuse pancreatic enlargement is seen on FDG PET/CT cross-sectional imaging.

**Discussion**

The pancreatic involvement (primary or secondary) of Lymphoma is a significantly rare finding (1). The FDG uptake patterns of these lesions were classified in a study including 9 patients who has this rare finding focal, segmental and diffuse uptake patterns (6). According to that analysis the pancreatic head was the most common involvement site (6). Previous studies confirm the role of F-18 FDG PET/CT in nodal and extranodal involvement with higher diagnostic sensitivity and specificity compared to Contrast Enhanced CT (7). Autoimmune pancreatitis FDG uptake is relatively lower compared to pancreatic Lymphoma (8). There are several case reports about pancreatic involvement as a multiple organ disease in patients with Burkitt Lymphoma in HIV positive patients (9). Usually, the pancreas involvement has been presented as a part of multiple organ involvement (10). In another case report it was determined in a patient with primary skeletal muscle Lymphoma (11). All these findings also suggest as it is reported in this case presentation, FDG PET-CT is a cornerstone of Lymphoma imaging and additionally it might determine unexpected involvement sites with high diagnostic accuracy.

**Peer-review:** Externally peer-reviewed.

**Authorship Contributions**

**Concept:** Z.P.K., P.P.O., S.Y., **Design:** Z.P.K., **Supervision:** Z.P.K., P.P.O., S.Y., **Data Collection and/or Processing:** Z.P.K., P.P.O., S.Y., **Analysis and/or Interpretation:** Z.P.K., P.P.O., S.Y., **Literature Review:** Z.P.K., **Writer:** Z.P.K.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study has received no financial support.

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