abstract

Validity of 18F FDG-PET/CT in the Detection of Bone Marrow Disease in Hodgkin's and Non-Hodgkin's Lymphoma

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Introduction: Positron Emission Tomography with 18F-Fluorodeoxyglucose (18F FDG-PET/CT) is useful for diagnosing lymphomas, including Hodgkin's and non-Hodgkin's. Its ability to detect bone marrow involvement is often compared to biopsy. Traditional bone marrow biopsy has been the gold standard for diagnosing lymphomas. On the other hand, 18F FDG-PET/CT provides functional and anatomical data without surgery. The aim was to determine the validity of 18F FDG-PET/CT for the detection of bone marrow disease in Hodgkin's and non-Hodgkin's lymphoma, using bone marrow biopsy as the gold standard.

Methodology: This study was conducted at the Department of Nuclear Medicine, KIRAN, Karachi, Pakistan. Patients meeting the inclusion criteria at KIRAN, Karachi, were included after getting informed consent, which explained the study protocol, hazards, and benefits. Contrast-enhanced PET/CT and bilateral/unilateral iliac crest marrow aspirate with trephine biopsy were done. Marrow biopsy was follo- wed by PET/CT within two weeks. Interpreting Hodgkin's lymphoma marrow infiltration. PET/CT scans with localized or diffuse tracer uptake in bone/ bone marrow were positive. The offered proforma was used to electronically record research data.

Results: The mean ± standard deviation of age was 33.49±14.45 years. In the gender distribution, 55 (63.2%) were classified as male, while 32 (36.8%) were classified as female. Diagnostic accuracy of 18 F-FDG-PET findings was 80.46% in the diagnosis of bone marrow disease, with a sensitivity 92.00%, a specificity 75.81%, a PPV 60.53%, and an NPV was found to be 95.92% by using bone marrow biopsy as the gold standard.

Conclusion: It is to be concluded that 18F FDG-PET/CT holds potential for identifying bone marrow pathology in both Hodgkin's and non-Hodgkin's lymphoma. The results suggest that there is a promising ability to accurately detect patients with or without bone marrow involvement, which makes it

a helpful method for assessing the condition and planning treatment without the need for intrusive procedures.