

^{18}F -FDG Positron Emission Tomography in Multifocal Pyomyositis

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Abstract

^{18}F -Fluoro-deoxyglucose–positron emission tomography/computed tomography findings in a case presenting with pyomyositis are presented in this report.

Keywords: Pyomyositis, ^{18}F -FDG, PET/CT

Introduction

Pyomyositis is a suppurative infection of the skeletal muscle and usually involves numerous muscles. It affects all age groups and represents a diagnostic and therapeutic challenge to clinicians, radiologists and pathologists. Ultrasonography and computed tomography remain the main imaging modalities. Early diagnosis allows prompt treatment which can prevent unwanted complications. FDG PET/CT can also be performed to find out the involvement of various sites in one go and hence help in the management.

Case Report

A 7-year-old boy presented with fever, cough with expectoration, weakness, and pain at multiple sites in the body. On examination, he had multiple swellings associated with erythema and tenderness all over the body. An ultrasound examination of the thigh revealed evidence of pyomyositis. Aspiration and culture was positive for *Staphylococcus aureus*. He was subjected to an ^{18}F -fluoro-deoxyglucose–positron



Figure 1: ^{18}F -fluoro-deoxyglucose (FDG) positron emission tomography (PET) showing multiple foci of FDG uptake in multiple muscles all over the body. Many of the lesions show central areas of photon-deficiency suggestive of abscess formation. Apart from the muscles uptake, multiple FDG avid pulmonary nodules are also noted

emission tomography/computed tomography (^{18}F -FDG–PET/CT) to evaluate the extent of disease involvement. PET revealed FDG uptake in multiple muscles with many of them showing the evidence of abscess formation [Figure 1]. Apart from the muscle uptake, multiple FDG avid pulmonary nodules were also noted. The child was treated with a combination of intensive antibiotic therapy and drainage of the abscesses.

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DOI:
10.4103/1450-1147.98741

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Discussion

Pyomyositis is a primary, subacute, deep bacterial infection of the skeletal muscle that usually manifests itself as localized abscess formations. Multifocal staphylococcal infection in immune-competent host is an infrequently described entity.^[1,2] Management of this entity requires an aggressive approach of intensive antimicrobial therapy and surgical drainage. FDG-PET is being increasingly used in the evaluation of a variety of complicated infections, including diabetic foot as well as vascular and orthopedic prosthesis infections.^[3-5] FDG-PET would play an important role in patients with disseminated infection in evaluating the sites and extent of involvement; as well as in the followup evaluation of such cases after institution of specific treatments.

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How to cite this article: Harisankar C, Mittal BR, Kashyap R, Bhattacharya A, Singhi S. 18 F-FDG Positron Emission Tomography in Multifocal Pyomyositis. *World J Nucl Med* 2012;11:22-3.

Source of Support: Nil. **Conflict of Interest:** None declared.

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