CASE REPORT

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^{18}F-FDG PET/CT Imaging of an Extramedullary Solitary Plasmacytoma of the Maxillary Sinus; A Case Report

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Abstract

^{18}F-fluorodeoxyglucose (^{18}F-FDG) positron emission tomography/computed tomography (PET/CT) is successfully used for imaging malignant plasma cell disorders. Solitary plasmacytoma of head and neck is relatively rare. We report a case of 52-year-old male patient with high ^{18}F-FDG uptake of pathologically proven maxillary sinus plasmacytoma that is uncommon. Our case has demonstrated ^{18}F-FDG PET/CT is useful for showing the extent of the disease that affects treatment management in plasmacytoma.

Keywords: Plasmacytoma, maxillary sinus, ^{18}F-FDG PET/CT

INTRODUCTION

Solitary extramedullary plasmacytoma is a plasma cell malignancy without systemic involvement. It is a rare clinical condition and mostly occurs in head and neck region (1). ^{18}F-fluorodeoxyglucose (^{18}F-FDG) positron emission tomography/computed tomography (PET/CT) has been reported to be useful in demonstrating the spread of the disease, it's involvement in the other parts of the body and in follow-up in solitary plasmacytoma (2-4).

CASE PRESENTATION

A-52-year-old male patient has referred to our department for ^{18}F-FDG PET/CT imaging for a body scan. He had complaints of swelling and pain on the left side of his face. After physical examination and CT scan, a lesion was demonstrated inside the left maxillary sinus. Fine needle biopsy revealed malign tumor cells, however excision of the lesion needed to confirm the diagnosis of the patient. Before excision ^{18}F-FDG PET/CT imaging was conducted for a whole body scan. PET/CT images has demonstrated a ^{18}F-FDG avid destructive lesion with high uptake inside the maxillary sinus and extending to the soft tissue surrounding left orbita (Figure 1). There was no pathological ^{18}F-FDG uptake in other parts of the body other than the extravasation of ^{18}F-FDG on the right hand around the side of injection (Figure 2). The patient had a maxillary sinus excision and orbital exenteration operation a week after the PET scan. The histopathology report was compatible with plasmacytoma. Bone marrow biopsy and blood tests were done and reported as normal to rule out multiple myeloma.

DISCUSSION

Solitary extramedullary plasmacytoma is a rare form of plasma cell disorder and the treatment approach may be different. If there is no disease in the other parts of the body, radiotherapy or excision with radiotherapy is recommended for treatment (5,6). Combined therapies with chemotherapy are also recommended for the higher disease-free survival rates (7). ^{18}F-FDG PET/CT imaging has been useful in the initial stage for excluding the metastatic disease and systemic involvement. Furthermore, it has been shown that ^{18}F-FDG uptake of the lesion can

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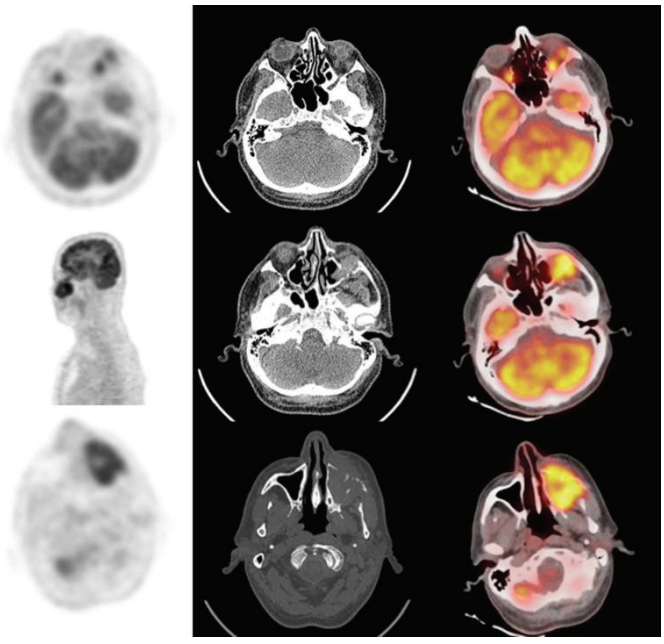

Figure 1. PET/CT images demonstrated a destructive lesion with high FDG uptake inside the maxillary sinus and extending to the soft tissue surrounding left orbita
PET/CT: Positron emission tomography/computed tomography, FDG: Fluorodeoxyglucose

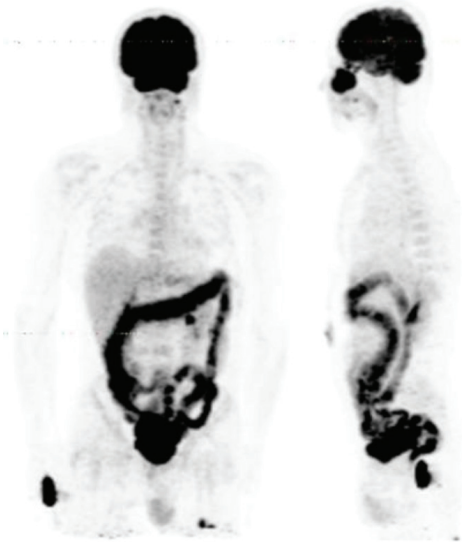

Figure 2. Whole body maximum intensity projection image showed no pathological findings other than primary lesion in the maxillary sinus

have an impact on the prognosis of the diease. [18]F-FDG avid plasmacytoma lesions are more likely to transform multiple myeloma, making follow-up more important in lesions with high uptake (8). There are currently a few cases reported for maxillary sinus plasmacytoma in the literature, however there are fewer reports for the use of [18]F-FDG PET/CT (9,10).

CONCLUSION

Our case has emphasized the importance of [18]F-FDG PET/CT whole body imaging to support clinical decision before starting treatment and during follow-up.

Ethics

Informed Consent: Informed consent was obtained from the patient.

Peer-review: Externally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: Ö.E., M.Ç., Concept: Ö.E., M.Ç., Design: Ö.E., M.Ç., Data Collection or Processing: M.Ç., Analysis or Interpretation: Ö.E., Literature Search: Ö.E., M.Ç., Writing: Ö.E.

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

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