^{18}F-FDG PET/CT imaging in a seldom case of primary malignant melanoma of duodenum

Sir,

We present a case of a 35-year-old male presented with pain abdomen and occasional vomiting of 1 month duration. On clinical examination, an ill-defined, firm mass was palpated in the right hypochondrium region with restricted mobility. Ultrasound of the abdomen reported a mass lesion in right hypochondrium likely arising from the duodenum. Biopsy was then performed from the duodenal mass which revealed histopathological features of malignant melanoma. The tumor cells were immunopositive for S100 and HMB45. The patient was then referred for 18F-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT) for staging and to rule out other primary focus. PET/CT revealed a large (10.4 × 7.2 cm) soft tissue density mass involving first, second, and third part of duodenum with intense ^{18}F-FDG avidity (maximum standardized uptake value (SUV_{max}) - 14.1). The mass was infiltrating the inferior surface of liver. There was no other ^{18}F-FDG avid focus on whole body PET/CT which could suggest metastasis or primary site [Figure 1]. He underwent surgical resection and is planned for chemoradiotherapy.

Malignant melanoma, originating from melanocytes, is not a common tumor and accounts for 1-3% of all malignancies.[1] However, it is the most common metastatic tumor of the gastrointestinal tract, especially the small intestine.[2] Primary malignant melanoma originating in the small bowel, particularly in the duodenum, is extremely rare.[1,3,4] Definite diagnosis depends on both careful histologic examination and the use of proper immunohistochemical stains such as HMB45, Melan-A, and S-100 protein. Before making the diagnosis of primary malignant melanoma of the small bowel, thorough systemic examination must be done to rule out the possibility of metastasis from other sites where melanomas preferentially develop such as the skin, retina, anal canal, or under the nail; and less frequently at other locations such as the esophagus, penis, or vagina. Also, there should not be any history of previous removal or spontaneous regression of any atypical melanocytic skin tumor.[5] ^{18}F-FDG PET/CT in such patients can provide dual advantage.[6,7] Firstly, it can rule our primary tumor at other more common sites. Secondly, it can accurately stage the disease. Optimal treatment for malignant melanoma is an extensive and curative surgery, if possible, because other methods including adjuvant radiotherapy, chemotherapy, and immunotherapy cannot offer definite treatment outcome. The time of diagnosis and the presence of metastases are supposed major determinants of prognosis.[5,8] Although ^{18}F-FDG PET/CT has been found to useful in detecting small-bowel metastases in patients with metastatic melanoma,[6,9] a case of primary malignant melanoma of the duodenum has not been documented with ^{18}F-FDG PET/CT. The present case represents the utility of ^{18}F-FDG PET/CT in the rare primary malignant melanoma of duodenum.

Sachin Jain, Punit Sharma, Sellam Karunanithi, Chandrasekhar Bal, Rakesh Kumar

Department of Nuclear Medicine, All India Institute of Medical Sciences, New Delhi, India

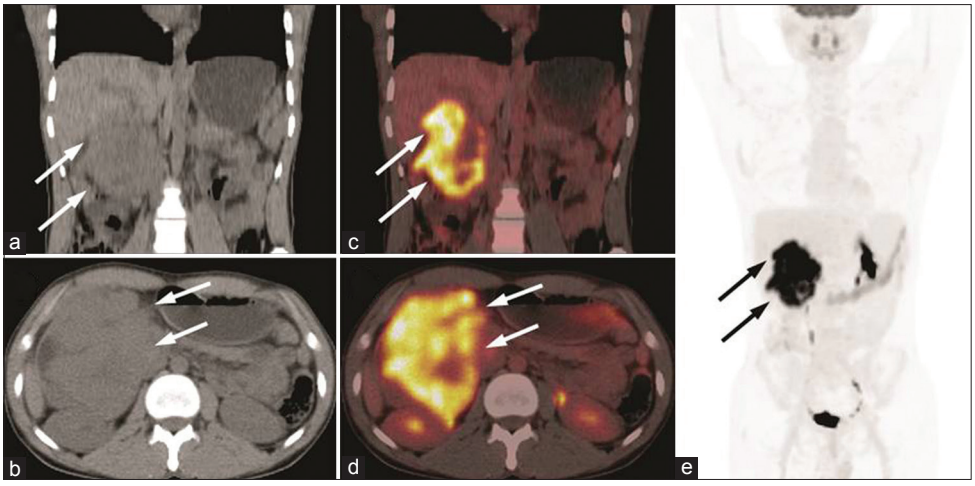

Figure 1: ^{18}F-fluorodeoxyglucose positron emission tomography/computed tomography (^{18}F-FDG PET/CT) revealed a large (10.4 x 7.2 cm) soft tissue density mass involving first, second, and third part of duodenum (a and b, arrows) with intense ^{18}F-FDG avidity (maximum standardized uptake value (SUV_{max}) - 14.1) (c and d, arrows) with no other ^{18}F-FDG avid focus on whole body PET/CT which could suggest metastasis (e)

Address for correspondence:
Dr. Rakesh Kumar,
Department of Nuclear Medicine and Positron Emission Tomography, All India Institute of Medical Sciences, New Delhi - 110 029, India.
E-mail: rkphulia@hotmail.com

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