PET-CT imaging in a rare metabolic myopathy pediatric case

Abstract
F18 - Fluorodeoxyglucose (FDG) PET/CT have found widespread application area especially in oncological patients. In the present case, diagnosis of metabolic myopathy detected on FDG PET/CT imaging performed for investigation of malignancy in a child patient with paraneoplastic syndrome was presented. Rare pediatric metabolic myopathy case FDG PET-CT findings was demonstrated for the first time in the literature.

Keywords: metabolic myopathy, PET-CT, FDG

Abbreviations: FDG, fluorodeoxyglucose; CT, computed tomography; MRI, magnetic resonance imaging; PET-CT, positron emission tomography–computed tomography

Short communication
Thirteen-year-old female patient with normal cerebral and muscular magnetic resonance imaging (MRI) was referred to our department for PET/CT imaging on examination of underlying malignancy. She had weight loss, widespread pain, unexplained LDH and uric acid level. Postprandial state was ruled out and following fasting for 4 hours i.v. 5.2 mCi 18F-FDG was injected. Sixty minutes later images to be 2-3 minutes per bed in 3D mode were taken from the calvarium to the footpad. Images taken on GE Discovery PET/CT 610 (General Electric Medical Systems, Milwaukee, WI, USA) were evaluated after attenuation correction with low-dose CT. PET/CT imaging demonstrated symmetrical diffuse markedly increased metabolic activity (SUVmax: 5.74-12.66) including all the cross-sectional area in skeletal muscle structure. Except this, no additional finding or FDG avid malignancy was found. According to the PET-CT findings, inflammatory muscle diseases was considered and muscle biopsy was suggested. Biopsy confirmed the diagnosis of metabolic myopathy. FDG PET-CT imaging is a standard whole body imaging modalitie with widespread use in the field of oncology. However, there are limited number of articles about the FDG PET-CT imaging in inflammatory muscle diseases such as polymyositis, dermatomyositis and metabolic myopathies as in this case.1,2 In the present case, diagnosis of metabolic myopathy detected on FDG PET-CT imaging performed for investigation of malignancy in a child patient with paraneoplastic syndrome was presented. Rare pediatric metabolic myopathy case FDG PET-CT findings were demonstrated for the first time in the literature. FDG-PET/CT imaging findings were found suspicious for non-malignant skeletal disease and directed the clinician to perform muscle biopsy (Figure 1).

Figure 1 PET/CT MIP (Maximum intensity projection) and axial fusion images demonstrates symmetrical diffuse markedly increased metabolic activity including all the cross-sectional area in skeletal muscle structure.

Acknowledgements
None.

Conflict of interest
Author declares that there is no conflict of interest.
References
