Incidental detection of pseudodiverticulum of sigmoid colon on $^{18}$F-FDG-PET/CT in a patient with lymphoma

To the Editor: Incidental pathologic findings have been reported on myocardial perfusion scintigraphy as well as on fluorine-18 fluorodesoxyglucose-positron emission tomography/computerized tomography ($^{18}$F-FDG-PET/CT) by Kotsalou et al and Bertagna et al respectively and published in HJNM [1-2]. The present case illustrates the potential pitfalls in $^{18}$F-FDG-PET of the abdomen imaging. A 75 years old woman presenting with pain in the right hip was found to have an expansile bone lesion in the posterior pillar of the acetabulum and their adjoining ischium along with involvement of the adjacent muscles. Computerized tomography (CT) guided biopsy, from soft tissue showed B cell type of non-Hodgkin’s lymphoma (NHL). A $^{18}$F-FDG-PET/CT scan for the initial evaluation of disease activity showed intense $^{18}$F-FDG uptake in a soft tissue mass (7.5x6x3cm) surrounding the right hip joint causing lytic destruction of the posterior part of acetabulum and the ischium and of the right obturator internus in association with the mass. Another focal, circumferentially increased uptake was noted in the distal part of the sigmoid colon. Repeated $^{18}$F-FDG-PET/CT scan for response evaluation after 4 courses of rituximab, cyclophosphamide, doxorubicin, vincristine, and prednisone (R-CHOP) chemotherapy showed no $^{18}$F-FDG avidity in the right hip. However, focal uptake in the sigmoid colon persisted. This was unrelated to primary pathology and colonoscopy confirmed a pseudodiverticulum at this site of uptake.

The routine use of $^{18}$F-FDG-PET to evaluate lymphoma, especially its management [3], significantly increases the probability of detecting unexpected diseases in the same scan. Incidental abdominal findings involving the digestive tract have been reported to occur in 1.3% of the scanned patients without significant difference in the intensity of $^{18}$F-FDG uptake within malignant, premalignant, and benign lesions. However, focal, fusiform, or lobulated abnormalities are significantly more intense than physiological uptake elsewhere in the bowel, particularly if associated with a structural abnormality and may sometimes warrant endoscopic examination [4-8].

In conclusion, as $^{18}$F-FDG is not lymphoma-specific, any unusual $^{18}$F-FDG avidity should be correlated with further investigations and/or an alternative diagnosis. A follow-up $^{18}$F-FDG- PET, performed after 2-3 months, is useful in providing a specific diagnosis which in 88% of the cases is related to malignancies [9-11].

Bibliography

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