

Detection by ^{18}F -FDG-PET/CT of upper extremity acute deep venous thrombosis

To the Editor: A 53 years old man with a history of metastatic non-small cell lung carcinoma who presented to our institution with acute pain and swelling of the right upper extremity underwent fluorine 18-fluorodeoxyglucose-positron emission tomography/computerized tomography (^{18}F -FDG-PET/CT) imaging for restaging of tumor following recent chemotherapy. The ^{18}F -FDG-PET/CT images were suspicious for acute deep venous thrombosis. A subsequent contrast-enhanced CT examination performed on the same day confirmed the presence of this pathology (Fig. 1). This case shows the potential role that ^{18}F -FDG-PET/CT may play for the early detection of thrombosis within the vascular system, particularly in patients who are at increased risk such as in the setting of malignancy.

Cancer and anticancer treatments are frequently complicated by venous thromboembolism (VTE), which leads to a 2-fold or greater increase in mortality compared to cancer patients without VTE [1, 2]. Although the true incidence of VTE is unknown, it has been estimated that 25%-30% of all cases occur in patients with established malignancy or who receive a cancer diagnosis, within 1-2 years [3]. Uptake of ^{18}F -FDG in aseptic deep venous thrombosis has been previously reported in the literature and can be a pitfall in PET imaging by simulating the presence of neoplastic disease [4-10]. With PET/CT imaging one can observe the intraluminal location of the ^{18}F -FDG uptake, as in the present case, to suggest this diagnosis. *In conclusion*, ^{18}F -FDG-PET/CT may play an important role in the future for the non-invasive detection of acute deep venous thrombosis in the entire body.

All authors declare that they have no conflicts of interest

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Figure 1. The ^{18}F -FDG-PET images showed moderately increased ^{18}F -FDG uptake in the right subclavian vein (A), whereas the low dose CT images demonstrated enlargement of the right subclavian and right axillary veins in association with increased attenuation (B), which were suspicious for acute deep venous thrombosis. A subsequent contrast-enhanced CT examination of the chest performed on the same day revealed a hypoattenuating filling defect in the right subclavian and right axillary veins which were enlarged (C), confirming the presence of acute deep venous thrombosis.

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