Detection of residual mucosa associated lymphoid tissue (MALT) of both lungs using gallium-67 SPET/CT

To the Editor: We came across brief review about mucosa-associated lymphoid tissue (MALT) of orbit by Dr OT. Yaylali et al. [1] and subsequently a related communication to the editor by Dr Kakhki in Hellenic Journal of Nuclear Medicine [2]. The prevalence of primary pulmonary lymphoma is reported to be 0.5%-1% and about 69%-78% of primary pulmonary lymphoma cases are MALT-type lymphoma [3-4]. We report our experience with an interesting case of MALT lymphoma involving lungs bilaterally which is a seldom location of MALT. A 45 year old housewife complaining of cough, dyspnea since three months was evaluated by X-rays and computed tomography (CT) of the lungs and was found to have lesions in both lungs suspicious of neoplastic disease. She underwent video-assisted thoracoscopic surgery. Biopsy, histopathology and immunochemistry showed the lesion to be a MALT lymphoma of the lung. She then completed 8 cycles of chemotherapy with cyclophosphamide, doxorubicin, vincristine and prednisone (CHOP). One and a half months after completion of treatment she presented with high grade fever for four days. She was finally diagnosed as a case of febrile neutropenia and was treated with antibiotics and granulocyte colony stimulating factor. Before discharge a gallium-67 citrate (^{67}Ga-C) single photon emission tomography/computed tomography (SPET/CT) was performed because the CT scan of this patient revealed consolidation in both lungs and was unable to differentiate between active tumor tissue and fibrosis. A baseline ^{67}Ga-C scan before starting treatment was not performed. Gallium-67 SPET/CT showed radiotracer uptake in the middle lobe of the left lung suggesting residual disease only in the left middle lobe and fibrosis of the right lung (Fig. 1). Based on these findings, the patient who was thought to be in remission was started again on chemotherapy.

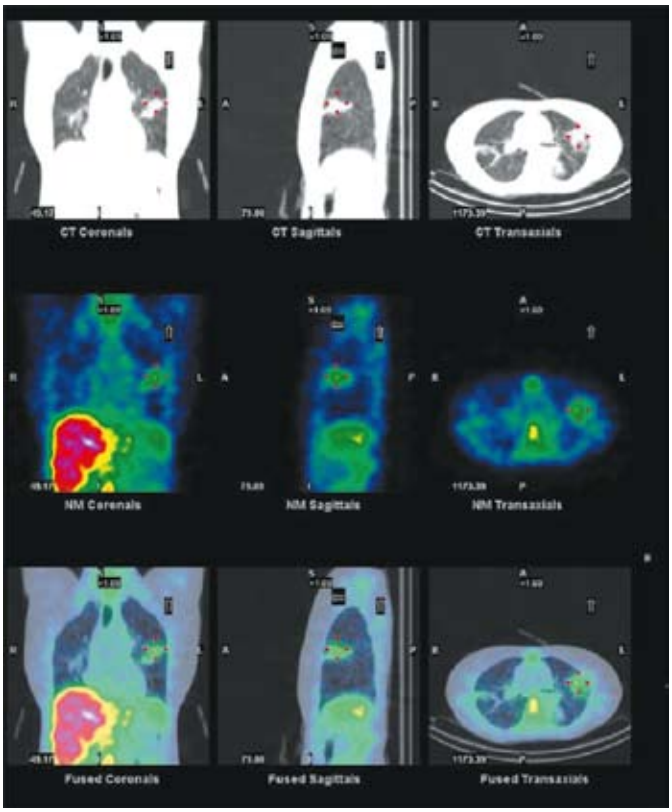

Figure 1. SPET/CT image of the patient with CT images (upper row) demonstrating consolidation in the middle lobe of both lungs. Gallium-67 citrate images (middle row) show uptake only in the left lung. No radiotracer uptake is noticed in the right lung consolidation. The bottom row shows fused SPET/CT images. The region corresponding to radiotracer uptake seen on CT suggests active tumor on the left and fibrosis on the right side.

Primary non-Hodgkin's lymphoma (NHL) in the lungs is very rare entity and constitutes about 0.4 % of all cases of lymphoma, the most common being MALT lymphoma [5]. Although treatment including chemotherapy, surgery and radiotherapy shows good results, distant relapses have been reported in the literature, in some cases even after decades following initial treatment [6]. Diagnosis of relapse or residual disease is often made by radiography including CT scans or serial X-rays. A residual mass persisting on CT after treatment poses a common clinical dilemma of being either a viable lymphoma, which requires further treatment or a benign lesion, consisting of only fibrotic and necrotic tissues. Before the advent of fluorine-18 fluorodesoxyglycose-positron emission tomography/CT (^{18}F-FDG-PET/CT), ^{67}Ga-C scintigraphy was the best available functional imaging modality for evaluating patients with NHL and Hodgkin's disease (HD) [7]. However, conflicting reports regarding the role of ^{18}F-FDG PET/CT have been reported in the literature with regard to the detection of MALT lymphomas [8-9].

This report adds a seldom case of bilateral lung involvement of MALT lymphoma positive in the ^{67}Ga- SPECT/CT fusion imaging.

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Department of Error

In the article "Correlation of serum prostate specific antigen, the volume and the intravesical prostatic protrusion for diagnosing bladder outlet obstruction in patients with benign prostate hyperplasia. *Hell J Nucl Med* 2007; 10: 138-143" the name of one of the authors P. Soundoulidis should have read P. Sountoulides.