

Primary Pleural Diffuse Large B-cell non-Hodgkin's Lymphoma Diagnosed via [18F]-2-Fluoro-Deoxy-D-Glucose Positron Emission Tomography /Computed Tomography

F-18 [18F]-2-Fluoro-Deoxy-D-Glucose Positron Emisyon Tomografi / Bilgisayarlı Tomografi'de Primer Plevral Diffüz Büyük B Hücreli Non Hodgkin's Lenfoma

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Primary pleural lymphoma is a rare entity. We report a 64-year-old-man with primary malignant lymphoma arising in the pleura with no history of persistent pyothorax. Chest computed tomography scan (CT) showed left pleural effusion with thickening of the parietal pleura. There were no intrapulmonary or mediastinal abnormalities. Analysis of pleural effusion did not detect empyema, tuberculosis, mycobacterium species, or mycelium. Initially, malignant mesothelioma was suspected, but it could not be diagnosed by cytological examination of pleural fluid. Flow cytometric analysis of pleural fluid showed cytomorphic and immunophenotypic evidence of diffuse B cell Non Hodgkin's Lymphoma (NHL) (Figure 1). [18F]-2-fluoro-deoxy-D-glucose (F-18 FDG) positron emission tomography/computed tomography (PET/CT) scan revealed a diffuse F-18 FDG uptake on thickened costal and diaphragmatic parietal pleura in left hemithorax indicating pleural involvement (Figure 2). Pathological and immunohistochemical (with CEA, LCA, CD20, CD3) examination of the pleural lesion obtained by pleural biopsy revealed that it was B-cell of the diffuse large cell type of NHL arising

from the pleura . We have written informed consent and no conflict of interest.

Malignant lymphoma arising in the pleura are rare, comprising 2.4% of the primary chest wall tumors, and most pleural lymphomas develop in association with preceding long-standing pleural disease such as long-standing chronic tuberculous pyothorax or artificial pneumothorax for lung tuberculosis. As a mechanism for pleural lymphoma, it had been suspected that there was chronic stimulation of B-cells in the pleural cavity such as that in long-standing chronic pleural disease, because it was reported that the most common malignant lymphoma arising in the pleura was B-cell non-Hodgkin's lymphoma of the diffuse large cell type histologically [1-7]. Human herpesvirus type 8 (HHV8), also known as Kaposi's sarcoma-associated herpesvirus, is a human gamma herpesvirus that underlies the pathogenesis of Kaposi's sarcoma, primary effusion lymphoma and multicentric Castleman's disease. Therefore, Kaposi Sarcoma and Multicentric Castleman's Disease should be considered in the differential diagnosis [8].

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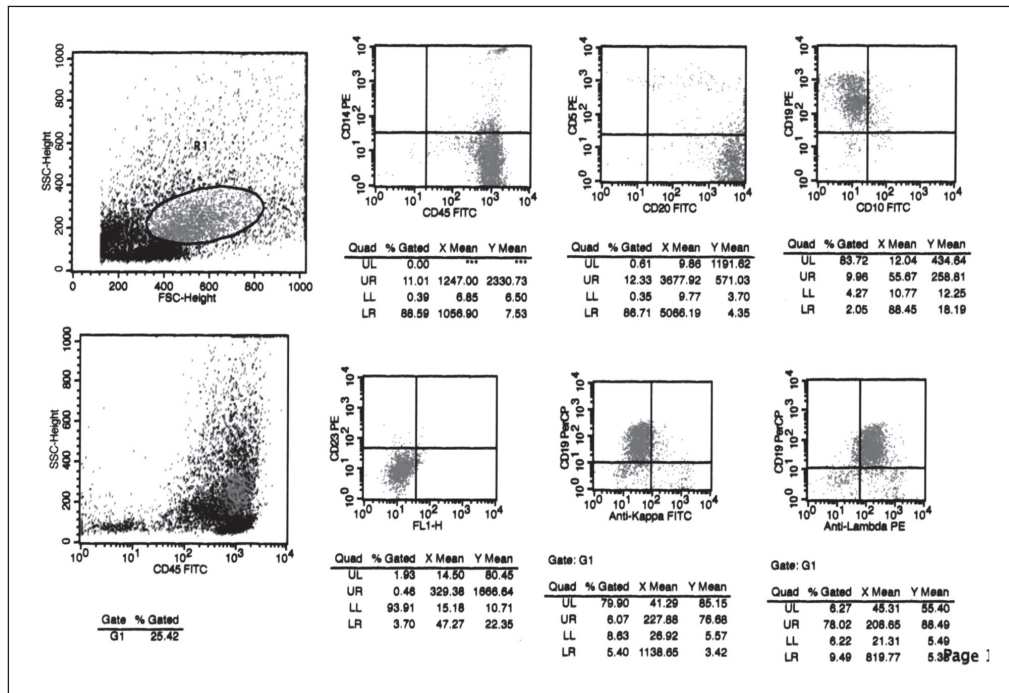


Figure 1: Flow cytometric analysis of pleural fluid confirmed the B-cell non-Hodgkin's lymphoma. CD20 positive and CD19 positive cells are 87% and %84 of the cells, respectively. Anti kappa + CD19 expression is negative. Anti lambda + CD19 positive cells are 78% of the cells.

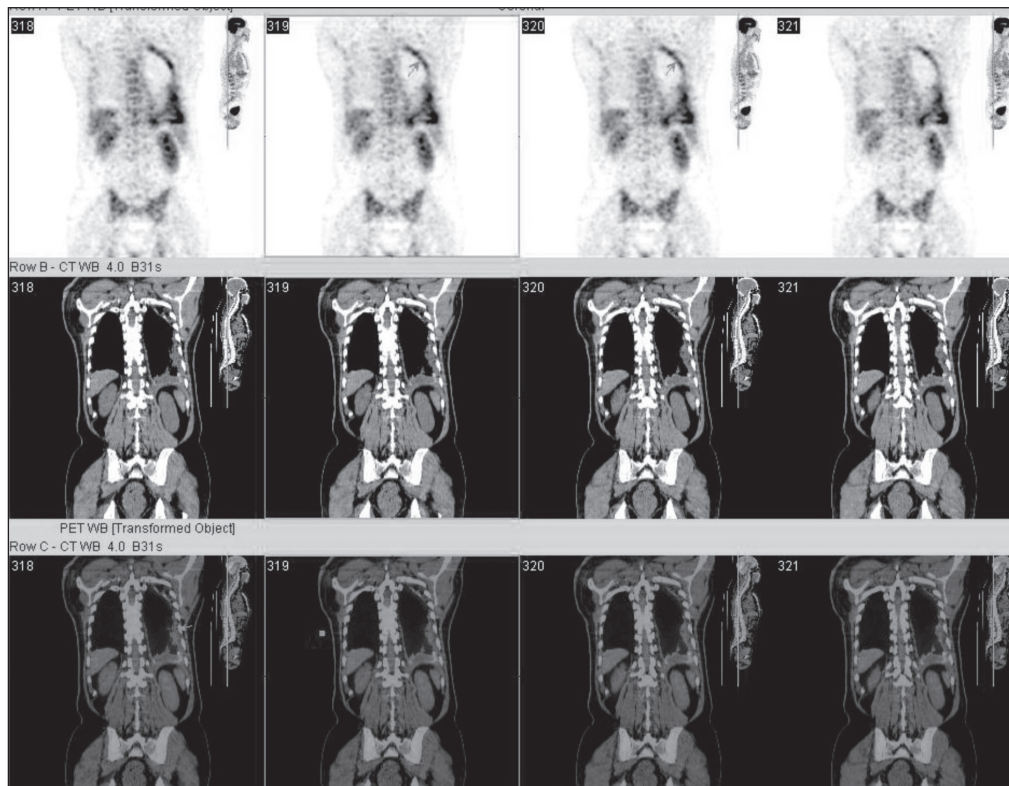


Figure 2: The patient was imaged using an integrated PET/CT camera (1hour after the administration of 465 MBq FDG), which is consists of a 6-slice CT gantry integrated on a LSO based full ring PET scanner (Siemens Biograph 6, IL, Chicago, USA). MIP PET, CT and fusion PET/CT images show a diffuse F-18 FDG uptake with a maximum standard uptake value (SUVmax) of 4.2 on thickened mediastinal, costal and diaphragmatic pleura in left hemithorax indicating pleural involvement. There is no additional focus suggesting lymphomatous disease.

Conflict of Interest Statement

The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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