Primary Pulmonary T-Cell Lymphoma in a Human T-Lymphotropic Virus Type-1 Carrier Showing Atypical Shadow

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Key Words: Primary pulmonary lymphoma, T-cell lymphoma, HTLV-1, Adult T cell leukemia/lymphoma (ATLL), Reticular shadow.

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A 68-year-old man was admitted to our hospital for cough and dyspnea. Laboratory data showed positive human T-lymphotropic virus type 1 (HTLV-1) antibody and elevated level of soluble interleukin-2 receptor (4225 U/ml). Thoracic computed tomography showed emphysema, reticular shadow, ground-glass attenuation, and subpleural consolidation (Figure 1). Bronchofiberscopy was carried out and cytologic examination of bronchoalveolar lavage fluid revealed atypical lymphocytes. These cells showed positive reaction for CD2, CD3, CD4, CD5, and CD25 and negative for CD8 in flow cytometry. Specimens of transbronchial lung biopsy showed massive infiltration of malignant lymphocytes, which were

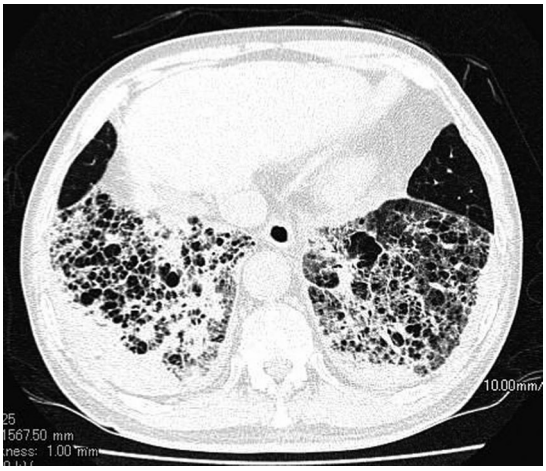

FIGURE 1. Thoracic computed tomography (CT) on initial admission showing emphysema, reticular shadow, ground-glass attenuation, and subpleural consolidation. The reticular shadow was mainly located in the lower fields of bilateral lungs. Bilateral pleural effusion was also seen.

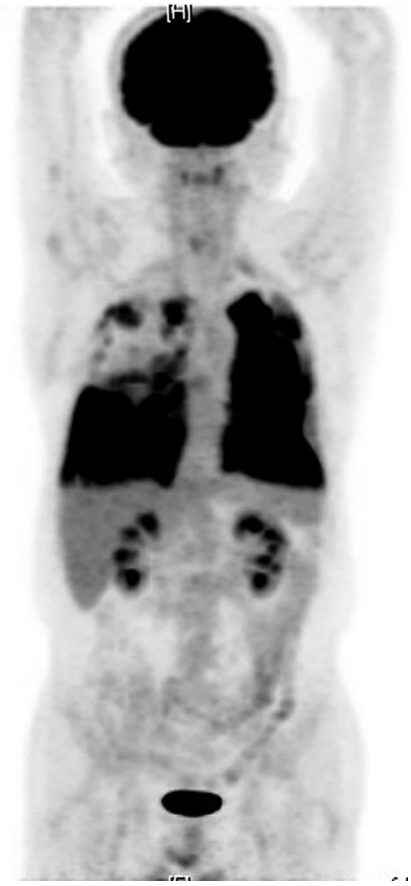

FIGURE 2. Fluorine-18-deoxyglucose-positron emission tomography (FDG-PET) before chemotherapy showing abnormal diffuse uptake within the bilateral lungs (standardized uptake value [SUV] max 15.1). Enlargement of lymph node was not seen.

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CD3 (+) CD20 (−), in the lung parenchyma. Few tumor cells were found in the bone mallow and no tumor cells were present in the peripheral blood. Fluorine-18-deoxyglucose-positron emission tomography showed abnormal diffuse uptake within the bilateral lung fields (Figure 2). Based on these findings, the patient was diagnosed as having primary pulmonary T-cell lymphoma. Although this case was considered as primary pulmonary adult T cell leukemia/lymphoma (ATLL) clinically, monoclonal integration of the pro-virus HTLV-1 into leukemia cells could not be examined. He was treated with the combination of cyclophosphamide, hydroxydaunorubicin, vincristine, and predonisolone, and clinical and radiologic improvement was observed.

This was a rare case of primary pulmonary T-cell lymphoma in a HTLV-1 carrier showing atypical reticular shadow. The most common primary pulmonary lymphoma is B-cell non-Hodgkin's lymphoma, whereas T-cell lymphoma is rare.[1] As far as we know, there have been only a few case reports of primary pulmonary T-cell lymphoma in HTLV-1 carriers,[2] and there have been no reports of primary pulmonary ATLL. Thoracic computed tomography findings of ATLL consist mainly of ground-glass attenuation, centrilobular nodules, thickening of bronchovascular bundles, and interlobular septal thickening in the peripheral lung.[3] The reticular shadow observed in the present case was very rare and cannot be classified into any types previously reported. We speculated that underlying emphysema may have complicated the lesions formed by lymphoma cells, thus making the radiographic diagnosis difficult. Worthy of note is the fact that malignant lymphoma can display an unusual form of extension and atypical radiologic appearance.

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