



A unique ALK-positive lung cancer without intrapulmonary lesions

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Clinical image description

A 37-year-old man without any symptoms was found to have an abnormal shadow on chest X-ray. While the abnormal shadow had been found a year earlier, he didn't visit a hospital (Figure 1A). Compared to the image taken a year before, the lesion had not progressed rapidly (Figure 1B).

The chest computed tomography (CT) imaging revealed formation of ring-shaped nodules on the right parietal pleura without any apparent intrapulmonary nodules (Figure 2A). According to the findings; we suspected lung tumors, including lung cancer, malignant mesothelioma and lung sarcoma. In addition, as the tumor progressed slowly, this condition should be also differentiated from tuberculous pleuritis and inflammatory lung

diseases such as IgG4-related lung disease. Therefore we performed surgical pleural biopsy as a pathological examination for diagnosis. The biopsy confirmed malignant atypical cells with fibrous thickening of pleura. Immunohistochemistry revealed adenocarcinoma containing anaplastic lymphoma kinase (ALK) fusion oncogene. From the results, ALK-positive lung cancer was diagnosed. Alectinib was initiated, and then the pleural effusion disappeared with all lesions improved within a year (Figure 2B).

The former reported ALK-positive lung cancer had three distinct CT features: central tumor location, large pleural effusion,



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and the absence of pleural tail [1]. Our case was quite different from typical ALK-positive lung cancer having these three features. In addition, while ALK-positive tumor were generally associated with advanced stage and poor outcome [2], the progression of this case was mild. We considered thickened pleura had packed malignant cells and inhibited progression and distant metastasis.

On the other hand, this unique lung cancer demonstrated a dramatic response to alectinib as with typical ALK-positive lung cancer did.

In conclusion, we experienced ALK-positive lung cancer in which the primary site remained unknown. This case highlights ALK-positive lung cancer may present various radiological findings.

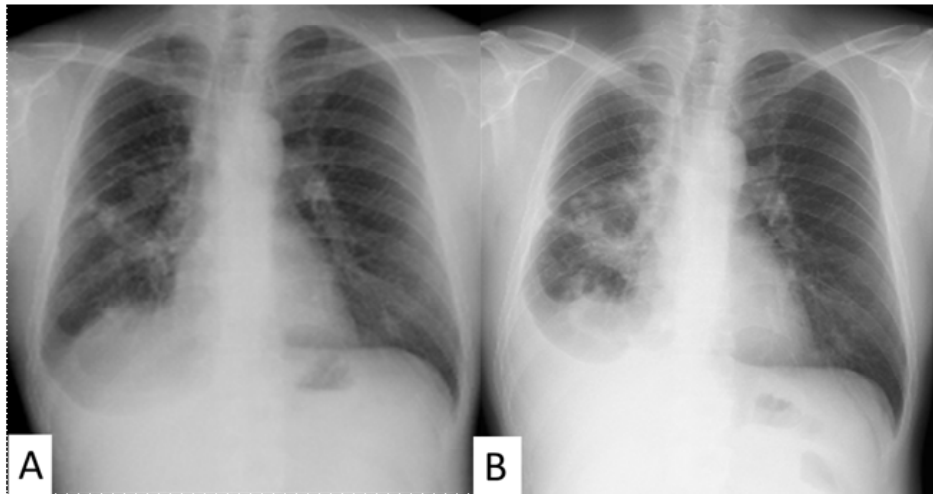


Figure 1: (A) The chest radiograph obtained a year ago showing multiple nodules in the right lung with pleural effusion. (B) The chest radiograph obtained at first visit showing progression of the lesions but not rapidly.

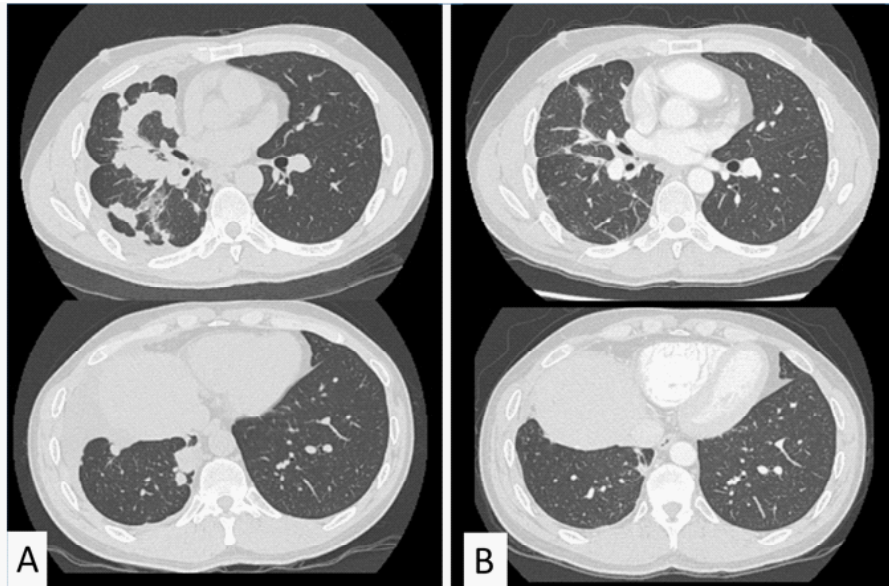


Figure 2: (A) The chest computed tomography imaging revealed formation of ring-shaped nodules on the right parietal pleura without any apparent intrapulmonary nodules. (B) Alectinib chemotherapy induced a dramatic response in the case.

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