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Consolidation with bronchial dilation

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A 72-year-old male former smoker presented with cough, chest pain, and dyspnea. Chest CT identified a consolidation with air bronchograms and bronchial dilation in the left upper lobe (Figure 1).

Consolidation, one of the most common chest CT findings, is characterized by the replacement of gas in the airspaces with fluid (i.e., transudate, exudate, or blood), cells, or other material (i.e., fat or protein). It can be hypodense (indicative of fat), which is generally characteristic of lipoid pneumonia, or hyperdense, as in pulmonary alveolar microlithiasis, parenchymal amyloidosis, talc pneumoconiosis, metastatic pulmonary calcification, and amiodarone-induced pulmonary toxicity.[1] However, most consolidations have soft-tissue density (similar to the densities of the heart and liver). This finding is highly nonspecific, being associated with various diseases; the differential diagnosis depends on the correlation of clinical and laboratory findings. The final diagnosis is possible only by anatomopathological evaluation in various cases. Imaging findings can help narrow the diagnostic possibilities. Initially, the determination of whether consolidation is the sole finding or whether associated patterns are present can aid in the differential diagnosis. In addition, the distribution of lesions (e.g., lobar, segmental, or predominating in the cortical or medullary regions) can be a useful parameter.

A characteristic, but rarely recognized tomographic finding is bronchial dilation in an area of consolidation. This pattern is very suggestive of pulmonary lymphoma (PL), especially mucosa-associated lymphoid tissue (MALT) PL. MALT underlying the respiratory tract epithelium is called bronchus-associated lymphoid tissue (BALT). Although the CT findings of PL are well described, the pattern of dilated air bronchograms inside areas of consolidation is not often recognized as a contributor to this diagnosis.[2] The main differential diagnosis is previously existing bronchiectasis intermingled with consolidation. The bronchial dilation seen in BALT lymphoma and that observed in bronchiectasis differ in many aspects. In BALT lymphoma, the bronchial wall is not destroyed and the dilation is reversible after the lymphoma has been treated. Lymphoma-associated bronchial dilation is always surrounded by a consolidation or mass (generally absent on CT scans in patients with bronchiectasis) and is not accompanied by sputum. However, bronchial dilation associated with bronchiectasis is irreversible due to bronchial wall destruction and is frequently associated with productive cough. Thus, the presence of bronchial dilation inside areas of consolidation appears to be a sufficiently specific CT finding to suggest the diagnosis of PL.[2] In our patient, the final diagnosis, made by lung biopsy, was BALT lymphoma.

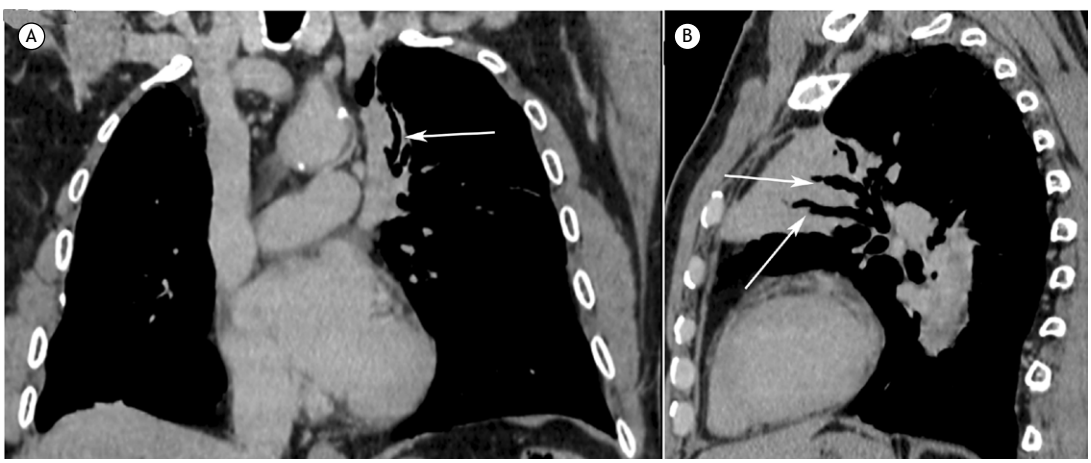

Figure 1. A 72-year-old man with biopsy-proven bronchus-associated lymphoid tissue lymphoma. Coronally (in A) and sagittally (in B) reconstructed CT images obtained with the mediastinal window setting showing an area of consolidation in the left upper lobe containing markedly dilated bronchi (arrows).

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