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Complete lung collapse as a rare complication of sarcoidosis-associated mediastinal lymphadenopathy

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Keywords
Atelectasis, fibrosing mediastinitis, lymphadenopathy, lymphoma, sarcoidosis.

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Key message

Complete lung collapse associated with sarcoidosis is exceedingly rare. Although lymphoma should be ruled out when patients with mediastinal lymphadenopathy develop lung collapse, sarcoidosis should be considered in the differential, especially when associated with fibrosing mediastinitis.

Clinical Image

A 47-year-old African American female with previous history of sarcoidosis presented to the emergency room with worsening symptoms of shortness of breath, wheezing, and chest tightness. Computed tomography (CT) scan of the chest demonstrated complete collapse of the right lung with associated mediastinal shift along with mediastinal and hilar lymphadenopathy (Fig. 1). The patient underwent bronchoscopy demonstrating complete obliteration of the right upper lobe orifice, pinhole orifice of the right lower and right middle lobes, and erythema of the right main and segmental bronchi. Endobronchial biopsy and endobronchial ultrasound-guided fine-needle aspiration of mediastinal lymph nodes demonstrated non-necrotizing granulomas without any fungal or acid-fast elements. Diagnosis of sarcoidosis was made and the patient was started on prednisone 40 mg daily with a slow taper over several months, which resulted in improvement of clinical and radiological findings. At lower doses of prednisone, clinical and radiological worsening raised the concern for possible lymphoma. Subsequent mediastinoscopy with biopsy demonstrated scattered non-necrotizing granulomas without any fungal or acid-fast elements along with fibrosis with hyalinization and calcification. Tissue cultures and stains for *Histoplasma capsulatum* were negative and sniff test demonstrated no evidence of diaphragmatic paralysis. The patient was treated with bronchoscopic balloon dilatation of the right middle and right lower lobes. Right upper lobe could not be opened due to complete occlusion of the orifice. Repeat chest X-ray two months later demonstrated persistent aeration of right middle and lower lobes. Given the reports of coexistence of lymphoma with sarcoidosis and compressive symptoms occurring almost exclusively with lymphoma, lymphoma should be ruled out when compressive atelectasis is seen with mediastinal lymphadenopathy [1]. Fibrosis with hyalinization noted on histology indicates coexisting fibrosing mediastinitis, characterized by extensive, usually unilateral and progressive, fibrotic reaction of the mediastinum crossing fat planes. It can involve great vessels and airways. Although most commonly associated with Histoplasma infection or tuberculosis, sarcoidosis has very rarely also been reported as a cause of fibrosing mediastinitis [2].

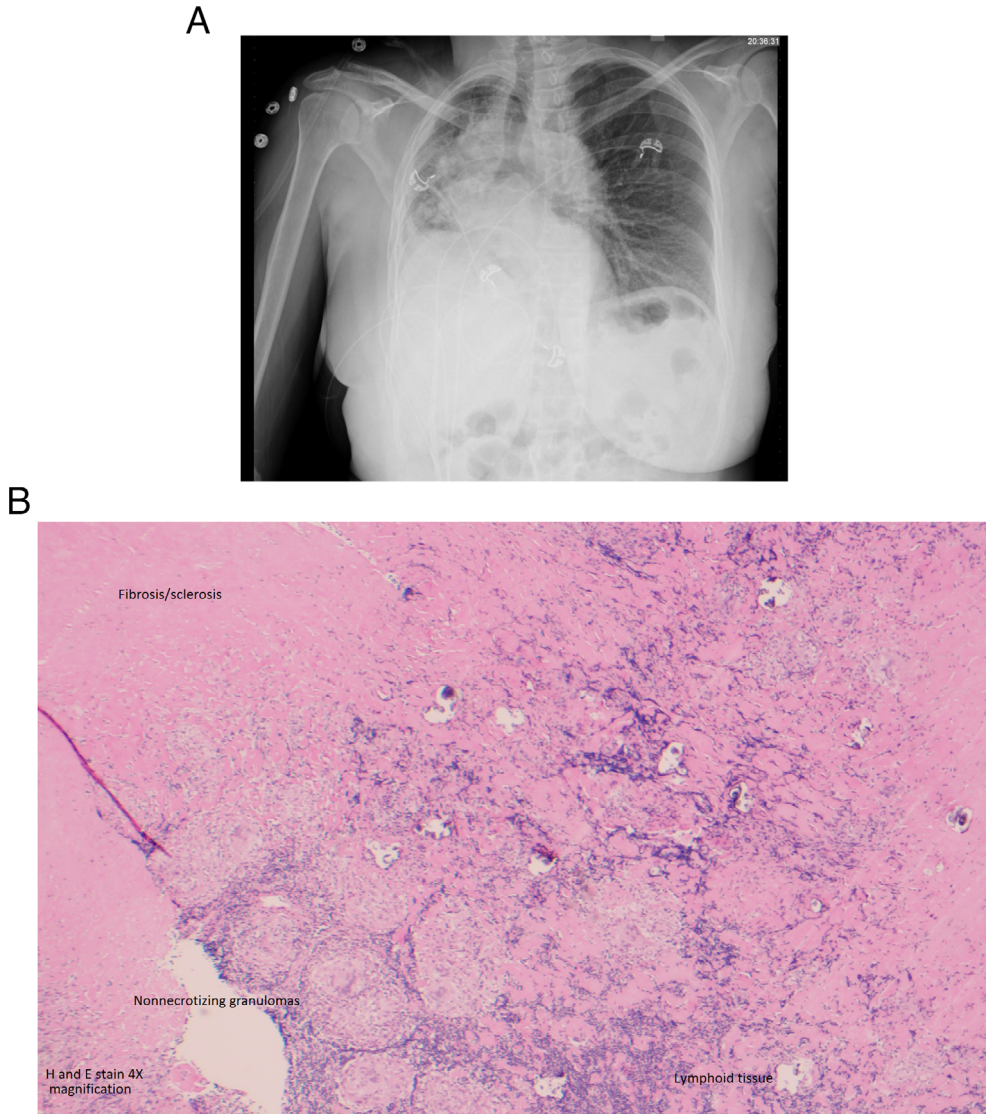

Figure 1. Imaging of the chest demonstrating volume loss within the right hemithorax with complete right lung atelectasis along with hilar and mediastinal adenopathy (A) and histology using haematoxylin and eosin (H&E) stain and 4× magnification demonstrating non-necrotizing granulomas, lymphoid tissue, and fibrosis with hyalinization (B).

Disclosure Statement

Appropriate written informed consent was obtained for publication of this case report and accompanying images.

Author Contribution Statement

All authors contributed to the concept, drafting, reviewing, and final approval of this manuscript. All are agreeable to be accountable for all aspects of the work.

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