

Paving-stone CT finding in a pulmonary tuberculosis patient

Hua Huang, Pu-Xuan Lu

Department of Radiology, Shenzhen Third People's Hospital, Shenzhen 518112, China

Corresponding to: Pu-Xuan Lu. Department of Radiology, Shenzhen Third People's Hospital, 29 Bulan Road, Longgang District, Shenzhen 518112, China. Email: lupuxuan@126.com.

Abstract: Pulmonary Tuberculosis (PTB) is a common medical and social problem worldwide, particularly in developing countries. Accurate diagnosis is very important. Chest radiography is usually the first choice of diagnostic tool when there is a suspicion of pulmonary TB. A computed tomography (CT) scan provides more detailed information on the extent and distribution of pulmonary TB. Here we present a culture proved pulmonary TB with paving-stone CT finding in a young immunocompetent male patient.

Keywords: Pulmonary tuberculosis (PTB); computed tomography (CT); paving-stone



Submitted Aug 20, 2013. Accepted for publication Sep 11, 2013.

doi: 10.3978/j.issn.2223-4292.2013.09.02

Scan to your mobile device or view this article at: <http://www.amepc.org/qims/article/view/2701/3833>

A 20-year old man complained cough for more than 2 weeks. He had fever in the afternoon and night sweating. The highest temperature was 39 °C. Routine blood test showed WBC count of $7.55 \times 10^9/L$. Chest X-ray showed consolidation in both lungs. His past medical history was unremarkable. After admission the symptoms didn't relieved after antimicrobial therapy. Chest computed tomography (CT) scan revealed paving-stone areas in both lungs, and mainly in the upper lobes (*Figure 1A,B*). There was no enlarged lymph node in the mediastinum. The lung lesions deteriorated at the follow-up CT scan after 15 days (*Figure 1C,D*), but became more consolidated after 30 days (*Figure 2*). Clinical diagnosis was pulmonary tuberculosis (TB) or pulmonary alveolar proteinosis. Finally the diagnosis was confirmed by sputum culture of *Mycobacterium*

tuberculosis. During hospitalization the patient had pneumothorax showed by radiography (*Figure 3*), with absorption after thoracic cavity drainage. The patient underwent anti-TB treatment and was well at four-month follow-up.

Pulmonary TB shows variable imaging findings such as micronodules, nodules, masses, consolidation, ground glass opacity, cavitation, bronchiectasis, fibrotic change, parenchyma calcification, lymphadenopathy, pleural thickening, and pleural effusion. Paving-stone CT finding is common in pulmonary alveolar proteinosis and pulmonary fibrosis, however it is rare in pulmonary TB. Pulmonary TB should always be kept in mind in the differential diagnosis of patients with pulmonary lesion.

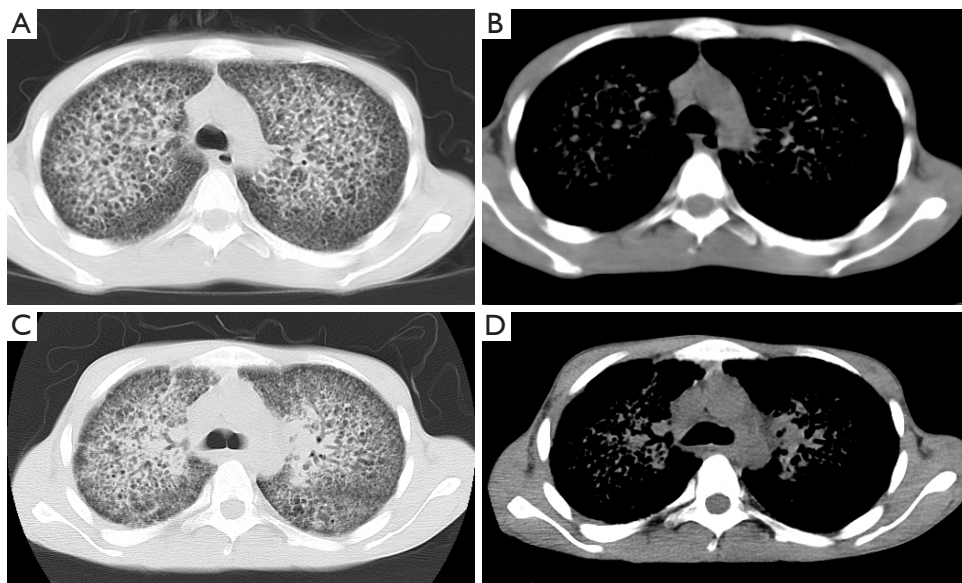


Figure 1 (A,B) Chest CT scan [lung window (A) and mediastinal window (B)] at the level of main carina, shows bilateral increased attenuation areas with a prevalent pattern of paving-stone; (C,D) After 15 days of treatment, chest CT [lung window (C) and mediastinal window (D)] scan shows that bilateral lung lesions slightly deteriorated, but without enlarged lymph node in the mediastinum.

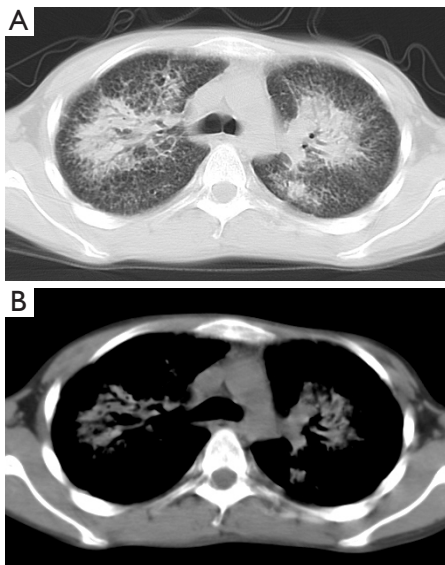


Figure 2 Chest CT scan [lung window (A) and mediastinal window (B)] at the same level as *Figure 1* after 30 days of treatment, shows bilateral lung lesions became more consolidated with air-bronchogram sign inside.

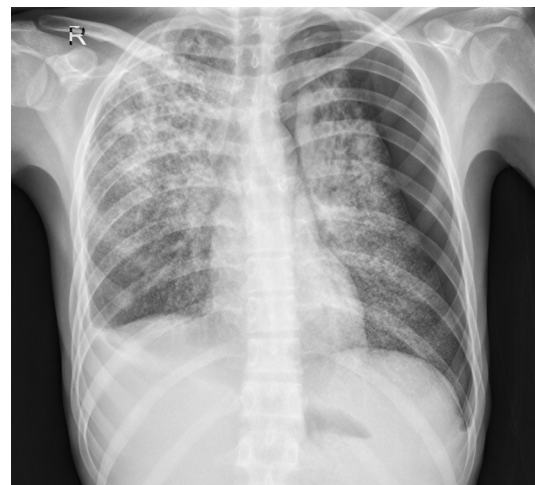


Figure 3 Chest X-ray shows left pneumothorax.

Acknowledgements

Disclosure: The authors declare no conflict of interest.

Cite this article as: Huang H, Lu PX. Paving-stone CT finding in a pulmonary tuberculosis patient. *Quant Imaging Med Surg* 2013;3(5):282-283. doi: 10.3978/j.issn.2223-4292.2013.09.02