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Mediastinal Lymph Node Calcification in a Patient with Pulmonary Hypertension: A Novel Clue to Accurate Diagnosis

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Abstract

Mediastinal lymph node calcification is an important but often overlooked radiological clue in patients with pulmonary hypertension, particularly in tuberculosis-endemic settings. We report a 27-year-old man with progressive dyspnea and ankle oedema, previously treated successfully for pulmonary tuberculosis, whose echocardiography suggested pulmonary hypertension. Non-contrast chest computed tomography demonstrated extensive, dense, coarse calcification of subcarinal and paratracheal mediastinal lymph nodes, with chronic post-infectious parenchymal lung changes but no evidence of active tuberculosis—consistent with pulmonary hypertension secondary to chronic lung and thoracic sequelae. This case highlights the diagnostic value of careful CT assessment of calcified mediastinal nodes in young patients with pulmonary hypertension.

Key Words: Tuberculosis; Pulmonary hypertension; Post-tuberculosis vascular disease; Fibrosing mediastinitis

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Case Report

A 27-year-old male presented with progressive dyspnea and ankle oedema and had previously undergone echocardiographic evaluation suggesting the diagnosis of pulmonary hypertension. Two years prior to presentation, the patient was successfully treated for pulmonary tuberculosis.

Non-contrast axial computed tomography (CT) of the chest using mediastinal window settings revealed extensive, densely calcified mediastinal lymph nodes, most prominent in the subcarinal and paratracheal regions (Figure 1A). Lung window images demonstrated residual parenchymal changes without features of active pulmonary disease (Figure 1B). The calcifications were coarse and confluent, a pattern characteristic of healed granulomatous lymphadenitis, particularly in patients with prior tuberculosis in endemic regions. Surrounding the calcified nodal conglomerates, there were areas of ill-defined soft-tissue attenuation extending into the adjacent mediastinum, suggesting an associated fibro-inflammatory process.

In this clinical context, these findings provide an important radiologic clue to post-tuberculosis pulmonary hypertension (PTB-PH), an under-recognized long-term sequela of pulmonary tuberculosis. The overall clinical and radiologic context is most suggestive of post-tuberculosis pulmonary hypertension, likely within the spectrum of WHO Group 3 pulmonary hypertension, reflecting chronic structural lung and thoracic sequelae following prior TB.

Post-tuberculous thoracic changes may contribute to pulmonary hypertension through several mechanisms, including chronic parenchymal destruction, fibrosis, bronchiectatic remodeling, hypoxic vasoconstriction, and pulmonary vascular injury.[1,2] In this case, the extensive calcified mediastinal lymphadenopathy further supports prior healed granulomatous disease and may help identify a post-tuberculous etiology rather than idiopathic pulmonary hypertension.[3,4] A fibro-inflammatory mediastinal process such as fibrosing mediastinitis may also be considered; however, definitive CT evidence of vascular or airway encasement

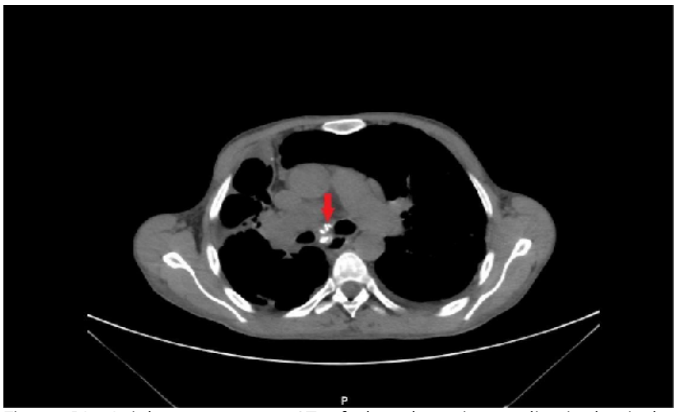

Figure 1A: Axial non-contrast CT of the chest in mediastinal window demonstrating dense calcified mediastinal lymph nodes (red arrow).

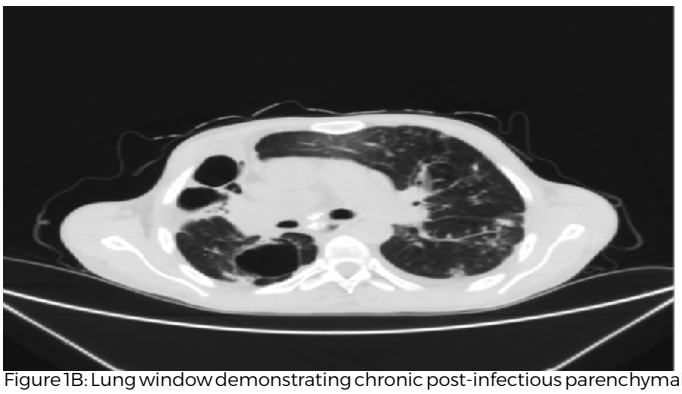

Figure 1B: Lung window demonstrating chronic post-infectious parenchymal changes.

was not demonstrated.

This case highlights the importance of careful evaluation of mediastinal lymph node calcification patterns in young patients with pulmonary hypertension and a history of tuberculosis. In resource-limited and TB-endemic settings, careful evaluation of calcified mediastinal lymph nodes and associated chronic pulmonary changes may provide an important diagnostic clue and help avoid misclassification of pulmonary hypertension as idiopathic.[3,4]

Ethical Statement

The authors confirm that the patient consented to the publication of the images above.

Disclosure Statement

The authors have no conflicts of interest to declare.

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