

Images in Infectious Diseases

Pulmonary Tuberculosis in a Patient with COVID-19 Pneumonia

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A 58-year-old man was admitted to the emergency department with a three-day history of fever, cough, and dyspnea. At admission, he was tachypneic (respiratory rate of 30 breaths/min), his body temperature was 38.2°C, and his oxygen saturation was 89%. Laboratory findings were unremarkable.

Chest computed tomography showed multiple areas of ground-glass opacity in both lungs, suggestive of viral infection, and tree-in-bud opacities with bronchial wall thickening and small nodules, suggestive of pulmonary tuberculosis (TB; **Figure 1**). The patient was diagnosed as having COVID-19 by real-time polymerase chain reaction. The diagnosis of TB was confirmed by culture.

The literature on the occurrence of COVID-19 in patients with TB is limited. COVID-19 can occur before, at the time of, or after the diagnosis of TB, and more evidence is required to determine whether it may reactivate or worsen active TB. Data on the association between TB and COVID-19 are not conclusive, but most researchers believe that concurrent infection is likely to worsen TB¹⁻³.

Careful analysis of the tomographic aspects in such cases can be decisive in gaining clarity about the suspected association between the two diseases. Bilateral ground-glass opacity is the most common pattern in patients with COVID-19. Pulmonary TB patterns include consolidation, cavitary lesions, bronchial wall thickening, and the “tree-in-bud” pattern¹⁻³.

AUTHORS' CONTRIBUTION

CAF Jr, EM and EM contributed significantly to the work, and have read the manuscript and approved its submission. CAF Jr and EM took part in conception of the manuscript and data acquisition.

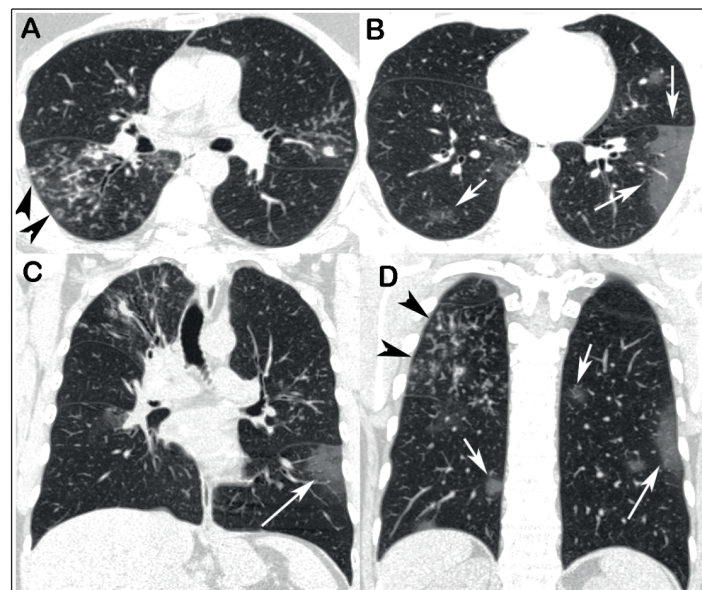


FIGURE 1: Unenhanced chest CT images with axial (A and B) and coronal (C and D) reconstructions showing “tree-in-bud” opacities predominating in the right lung (black arrowheads), with bronchial wall thickening and small nodules. Note also the multifocal ground-glass opacities in both lungs (white arrows). No pleural effusion or lymph node enlargement was present.

CAF Jr and GZ contributed to the analysis and interpretation of data. EM drafted the manuscript and reviewed the literature.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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