

Clinical Image

Atypical Appearance of Pneumocystis carinii pneumonia Without Ground-Glass Opacities

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Main Point

This article serves to demonstrate Pneumocystis carinii pneumonia may cause severe infection and significant lung changes on computerized tomography scan without containing its hallmark feature - ground-glass opacities.

Clinical Image

A 51-year-old male with a background of advanced HIV and non-compliance with antiretrovirals was referred to the infection team with a 4-month history of cough, dyspnoea, 2-stone weight loss and night sweats. On admission, his viral load was greater than 1 million copies with a CD4⁺ T cell count of $0.056 \times 10^9/L$ (normal range $0.3 - 1.4 \times 10^9/L$). Notably, his Beta D Glucan serology and Lactate Dehydrogenase levels were 455.6 pg/mL (<80 pg/mL) and 189 unit/mL (135 – 225 unit/mL), respectively. A contrast-

enhanced examination of the chest (Figure 1) revealed widespread nodularity measuring up to 12mm in diameter with areas of cavitation measuring up to 30mm. There was no zonal predominance. An infectious aetiology was strongly suspected however appearances were not in-keeping with key differentials. There was no ground-glass opacification to suggest pneumocystis or cytomegalovirus pneumonia; no significant lymphadenopathy or central cavity calcification to suggest histoplasmosis and no necrotic lymph nodes to implicate TB. Furthermore, the lack of bronchiectatic change and diffuse nature of the nodularity were not in-keeping with mycobacterium avium

complex. Following the result of a bronchoalveolar lavage which was PCR positive for pneumocystis carinii, the patient was initiated on a treatment course of cotrimoxazole. Repeat cross-sectional imaging performed 82-days following the initial scan (Figure 2) revealed significant interval resolution of the nodular and cavitating lesions. This case highlights the importance of considering a wide differential when evaluating aetiologies of lung nodularity and cavitation; specifically, the possibility of pneumocystis presenting without its hallmark ground-glass opacification.

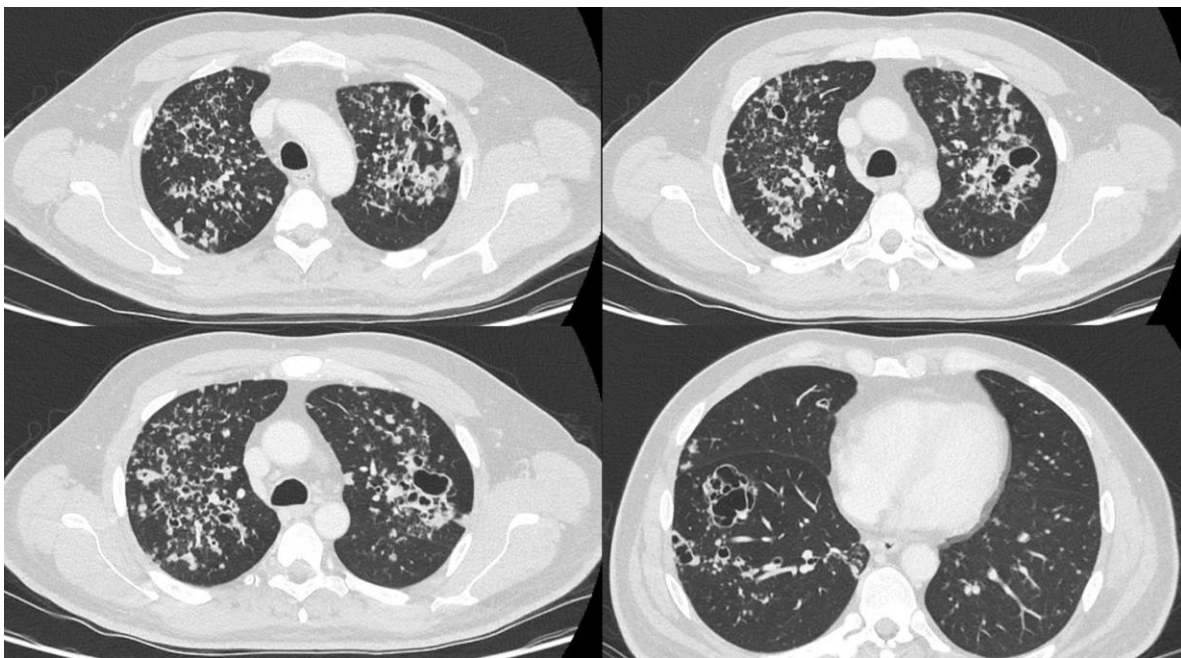


Figure 1: Post-contrast examination of the lungs demonstrating widespread nodularity bilaterally with areas of cavitation in the left upper and right lower lobes. Notably, there is no significant ground-glass opacification.

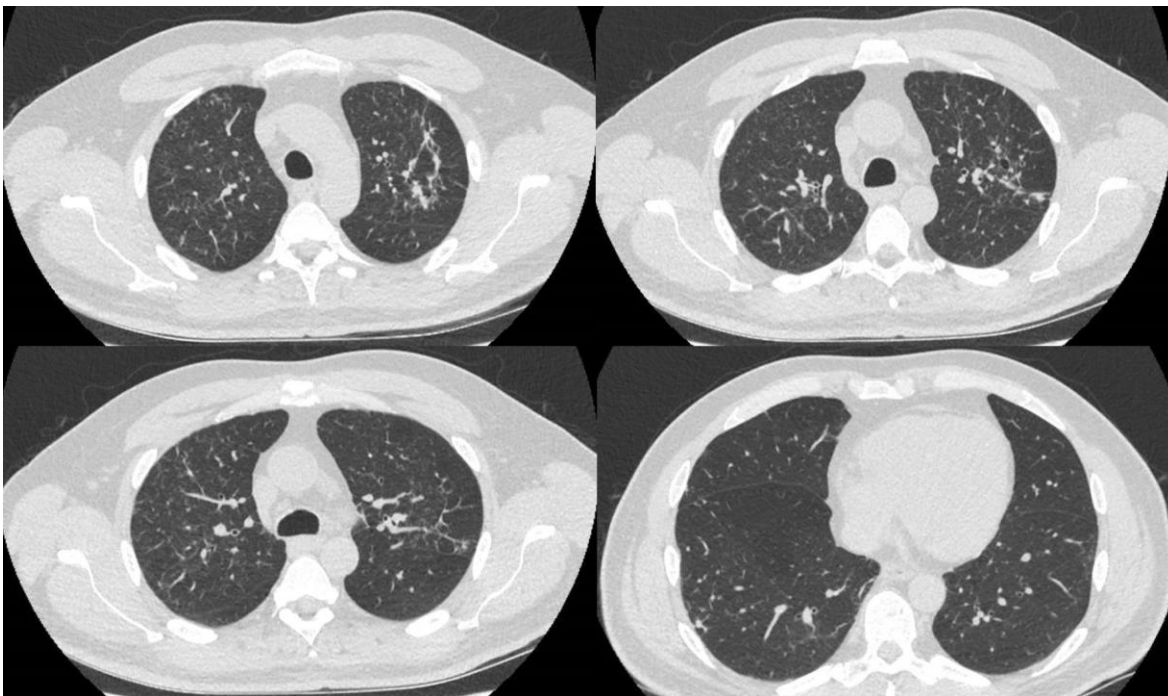


Figure 2: Eighty-two days post Figure 1 following co-trimoxazole treatment. HRCT examination that demonstrates significant interval improvement with resolving nodularity and reduction in size of previously demonstrated cavitations. HRCT = High resolution computed tomography.



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