

Case Series

Can it be tuberculosis? A case series of atypical presentation of pulmonary tuberculosis

Rakhee Sodhi Khanduri^{1*}, Amita Mason¹, Varuna Jethani¹, Ankit Aggarwal²,
Sushant Khanduri¹, Manoj Kumar¹

¹Department of Respiratory Medicine, Himalayan Institute of Medical Sciences, Dehradun, Uttarakhand, India

²Department of Respiratory Medicine, Amrita Institute of Medical Sciences, Cochin, Kerala, India

Received: 08 February 2025

Revised: 12 March 2025

Accepted: 21 March 2025

*Correspondence:

Dr. Rakhee Sodhi Khanduri,

E-mail: rakhee.sodhi@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Tuberculosis (TB) is a major health concern. It is a contagious disease caused by *Mycobacterium tuberculosis*. The disease can present in almost all sites-pulmonary and extrapulmonary. We always consider TB in our differentials. The commoner presentations are picked up early and treatment started promptly. However, when the presentation is atypical, diagnostic delays influence outcomes. We report six cases of pulmonary TB with varied radiological presentations. The findings include interstitial lung disease (ILD), malignancy, pulmonary infarction, tracheal thickening. All cases were diagnosed as TB after thorough invasive investigations, and successfully treated with anti-tubercular medication. Clinicians should be aware of atypical presentations of TB to ensure timely diagnosis and treatment.

Keywords: Tuberculosis, Pulmonary, Inflammation, Anti-coagulant

INTRODUCTION

Tuberculosis (TB) is a chronic infectious disease that poses a significant threat to global health, particularly in developing countries.¹ Despite efforts to control the disease, world health organization's annual global TB report reveals a concerning upward trend in incidence and mortality rates.²

While TB primarily targets the lungs, it can also manifest in extrapulmonary sites like lymph nodes, the abdomen, the brain, and the genitourinary areas.³ Although common presentations of TB are picked up early and treated promptly, some patients may exhibit atypical, unusual, or complex features. Atypical presentation of TB may cause diagnostic delay and adversely influence outcome.

This case series highlights cases of pulmonary TB with varied radiological presentations, underscoring the

importance of considering TB in differential diagnoses, especially in our country where TB is so endemic.

CASE SERIES

Case 1

A 64-year-old female tobacco chewer presented with fever and cough with expectoration, along with bilateral lymphadenopathy (BLN) for the past 15 days. On examination, clubbing and fine crepitations were noted in the bilateral infra-scapular region. A contrast-enhanced computed tomography (CECT) of the thorax (Figure 1) revealed features consistent with ILD.

Bronchoscopy with bronchoalveolar lavage (BAL) and transbronchial lung biopsy (TBLB) were performed for further evaluation. BAL from the upper lobes revealed acid-fast bacilli (AFB), and TBLB from the right and

middle lobes showed chronic necrotizing granulomatous inflammation.

BAL gene expert revealed *Mycobacterium tuberculosis* sensitive to rifampicin. Consequently, a diagnosis of TB was established, and the patient was started on anti-tubercular treatment (ATT).



Figure 1: CT image suggesting bilateral dense consolidation and ground glassing, involving the basal regions more.

Case 2

A 40-year-old male, a non-smoker and policeman by profession, presented with left-sided chest pain, cough with expectoration, and hemoptysis for the past 10 days. A chest X-ray in the posteroanterior (PA) view revealed a wedge-shaped opacity in the left lower zone, suggestive of a pulmonary infarct. A CECT of the thorax (Figure 2) confirmed a wedge-shaped pleural-based opacity.

The D-dimer test was positive. He was suspected to have pulmonary embolism with pulmonary infarction. Hence computed tomogram of pulmonary artery was done.

The patient was initially started on anticoagulant therapy; however, due to a lack of relief, a CT-guided fine needle aspiration cytology (FNAC) and biopsy were performed. FNACs and endobronchial biopsies were sent for cytology, histopathology, Gene Xpert, AFB smear and AFB culture. The reports were suggestive of chronic necrotizing granulomatous inflammation consistent with TB. Microbiological tests were also inconclusive. The patient was then started on ATT and responded well to the treatment.

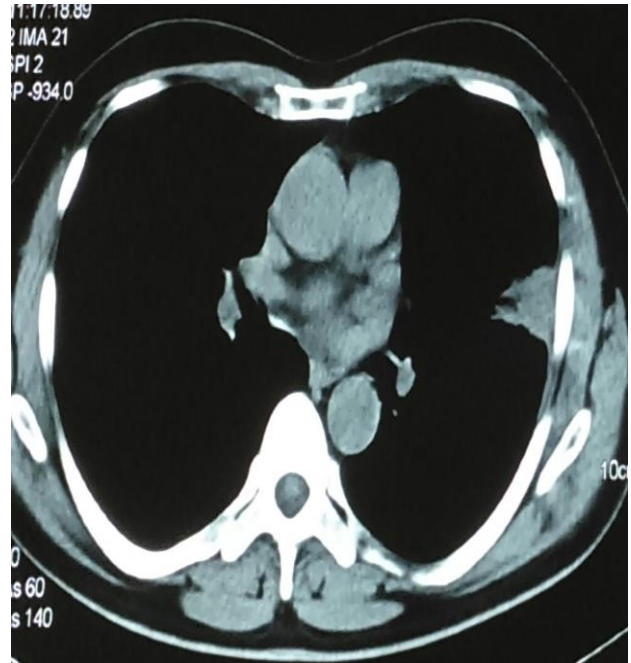


Figure 2: CT image suggesting wedge-shaped opacity in the left lower lobe.

Case 3

A 72-year-old male ex-smoker presented with BLN and cough persisting for one year. A CECT of the thorax (Figure 3) revealed features of ILD being present unilaterally on right side. To rule out this unusual finding, bronchoscopy with TBLB was performed. The BAL revealed tubercular bacilli and biopsy was also suggestive of TB. Patient was started on treatment and he improved with complete resolution of interstitial pattern.



Figure 3: HRCT thorax suggestive of right sided interstitial thickening and fibrosis and honeycombing.

Case 4

A 60-year-old female presented with a history of cough persisting for one year. Chest X-ray (Figure 4) was normal, and the patient was initially managed for cough variant asthma, but showed no improvement. CECT was done which was also normal. However tracheal lining was not smooth. Subsequently, bronchoscopy revealed multiple endobronchial lesions and anthracotic patches (Figure 5), which indicated chronic granulomatous inflammation on histopathological examination, suggestive of TB. BAL gene expert revealed *Mycobacterium tuberculosis* which was sensitive to Rifampicin. The patient was then started on anti-tubercular medication and she responded well to it.



Figure 4: Chest Xray image suggesting increased broncho-vascular markings with near normal lung parenchyma.



Figure 5: Bronchoscopy images showing nodular lesions on the carina.

Case 5

A 51-year-old nonsmoking female presented with persistent cough for six months, with occasional episodes

of expectoration. On examination, no significant abnormalities were detected. A chest X-ray (Figure 6) showed features of mediastinal widening. A CECT of the thorax suggested bilaterally enlarged paratracheal, subcarinal, and hilar lymph nodes. For further evaluation, bronchoscopy with BAL, endobronchial biopsy, and endobronchial ultrasound (EBUS)-guided transbronchial needle aspiration (TBNA) were performed. Bronchoscopy revealed a cauliflower-like growth at the carina extending to the right bronchus (Figure 7), and a biopsy of the lesion showed dense chronic inflammatory infiltrates. BAL-Tru NAAT was tested positive for *Mycobacterium tuberculosis*, while TBNA was negative for malignancy. Biopsy was also sent for gene expert which also came positive. Consequently, the patient was diagnosed with TB and initiated on ATT.



Figure 6: Chest Xray image suggesting increased broncho-vascular markings with mediastinal widening. Cardiomegaly can also be appreciated.



Figure 7: Bronchoscopy image showing cauliflower like growth present over the carina.

considering TB as a possible diagnosis, even in the presence of atypical symptoms and radiological features. Early recognition and timely initiation of appropriate treatment are crucial for the successful management of TB.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Sharma SK, Mohan A, Sharma A. Challenges in the diagnosis and treatment of miliary tuberculosis. Indian J Med Res. 2012;135(5):703-30.
2. WHO. Global Tuberculosis Report 2024 2024. Available at: <https://www.who.int/teams/global-tuberculosis-programme/tb-reports/global-tuberculosis-report-2024>. Accessed on 3 January 2025.
3. Harisinghani MG, McLoud TC, Shepard JAO, Ko JP, Shroff MM, Mueller PR. Tuberculosis from Head to Toe. RadioGraphics. 2000;20(2):449-70.
4. Lama D, Singh R, Jahan F, Tiwari B, Mandal L. Atypical presentation of pulmonary tuberculosis. J Chitwan Med College. 2023;13(43):105-7.
5. Nousheen A, Rizvi N. Interstitial Lung Diseases Misdiagnosed as Tuberculosis. Tuberculosis. 2017;pa2716.
6. Nguyen-Ho L, Nguyen-Tiet A, Chang YS. Asthma and pulmonary tuberculosis: misdiagnosis or coexistence. Respirol Case Rep. 2021;9(7):e00797.
7. Saleemi SA, Alothman B, Alamer M, Alsayari S, Almogbel A, Mohammed S. Tuberculosis presenting as metastatic lung cancer. Int J Mycobacteriol. 2021;10(3):327-9.
8. Dheda K, Makambwa E, Esmail A. The Great Masquerader: Tuberculosis Presenting as Community-Acquired Pneumonia. Semin Respir Crit Care Med. 2020;41(4):592-604.

Cite this article as: Khanduri RS, Mason A, Jethani V, Aggarwal A, Khanduri S, Kumar M. Can it be tuberculosis? A case series of atypical presentation of pulmonary tuberculosis. Int J Res Med Sci 2025;13:1641-5.