

## ENDOBRONCHIAL TUBERCULOSIS MASQUERADING AS ASTHMA

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### ABSTRACT

The contagion of the tracheobronchial tree by *Mycobacterium Tuberculosis* is known as Endobronchial Tuberculosis (EBTB). It is known to be the outcome of a spread from parenchymal lesions or bronchial invasion from mediastinal tubercular lymphadenitis. A young female with cough, breathlessness and fever is a case in point. Initially, she was treated as a patient of bronchial asthma, which later turned out to be endobronchial tuberculosis confirmed on bronchoscopy.

**KEYWORDS:** Endobronchial Tuberculosis, Bronchoscopy, Tuberculosis, Asthma

### INTRODUCTION

Biopsy and Bronchoalveolar lavage back the analysis of EBTB (1). It is believed to be a result of spread from parenchymal lesions or bronchial invasion from mediastinal tubercular lymphadenitis. (2) Misinterpretation of clinical and imaging evidence is a primary source of misdiagnosis. The disease progresses as a typical consequence of active tuberculosis, causing bronchial stenosis in the majority of patients. It is a communicable disease that carries a diagnostic predicament solely due to its flexible clinical features. Managing it includes anti-tubercular medication and inhibiting the airway stricture formation. The examination of sputum remains the primary diagnostic test, though chest skiagram, computed tomography, bronchoscopy, etc, can also be performed. Additional investigation can be started if it is negative with imaging and diagnostic bronchoscopy (bronchoalveolar lavage and biopsy).

### CASE PRESENTATION

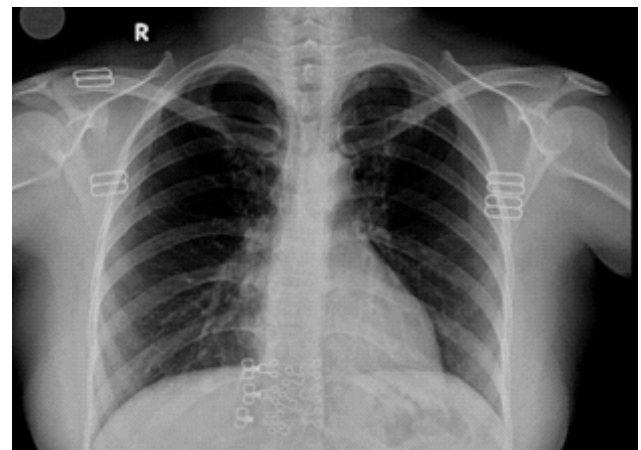
A 26 year female presented with complains of productive cough for 1 year and breathlessness for 8 months which increased on exposure to dust and smoke. She also reported of fever since 2 days but it was not documented. She gave history of contact with tuberculosis patient (maternal grandmother) who was (microbiologically confirmed case) treated for the same, 3 years back. She used dry powdered inhaler since last 3 months on advise of local practitioner for breathlessness and was diagnosed as bronchial asthma. On admission, Physical examination revealed respiratory rate of 18 breaths per minute, heart rate 78 beats per minute (bpm), and blood

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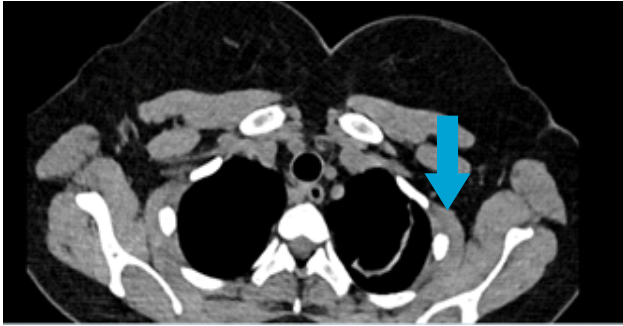
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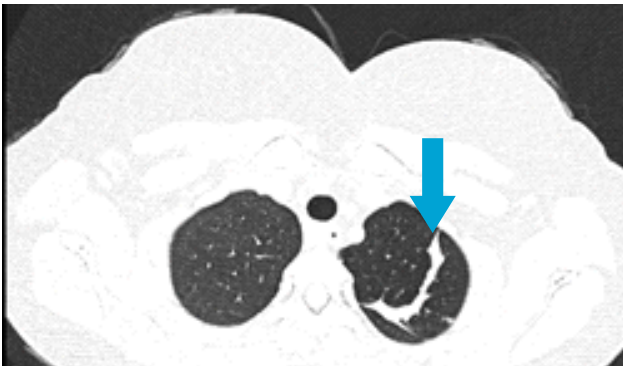
pressure of 128/70 millimetres of mercury, saturation of 98% on room air. On auscultation, bilateral harsh vesicular breath sounds with bilateral rhonchi were present. She was treated with nebulisation and injectable steroids since she presented with typical symptoms of asthma. Chest skiagram was performed which revealed no significant abnormality. HRCT chest showed a soft tissue attenuating fibrotic patch with tractional bronchiectasis and fissural thickening in left upper lobe. Sputum microscopy was negative for tubercular bacilli therefore bronchoscopy was planned for further confirmation. Bronchoscopy revealed right bronchial tree to be normal. Left bronchial tree showed mucus plugs with ulceration along with white nodules. Bronchoalveolar lavage sample came out to be positive for AFB (1+). Anti tubercular treatment was started and the patient was relieved symptomatically.



**Fig. 1: Normal Looking Chest X Ray**



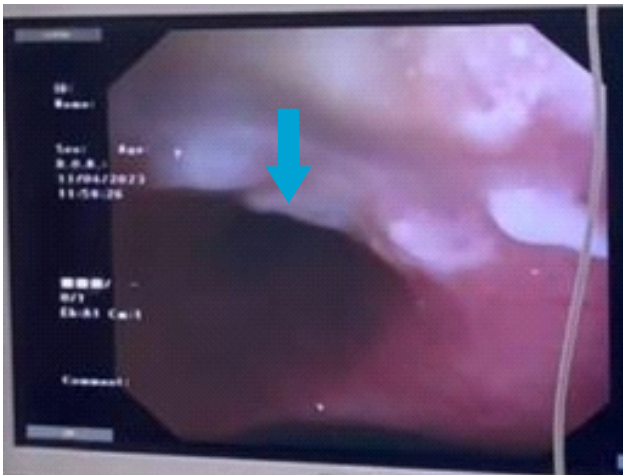
**Fig. 2: Fissural Thickening in Left Upper Lobe**



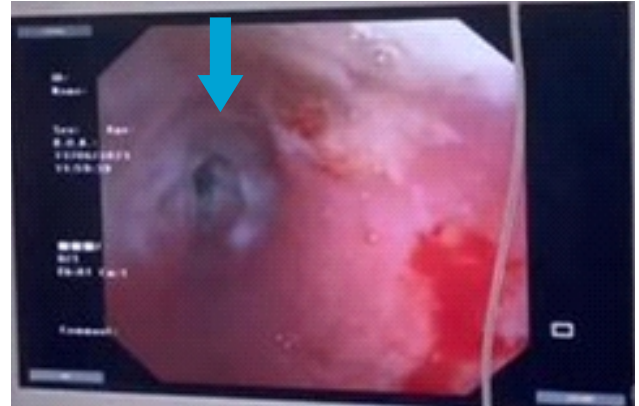
**Fig. 3: Fissural Thickening in Left Upper Lobe**



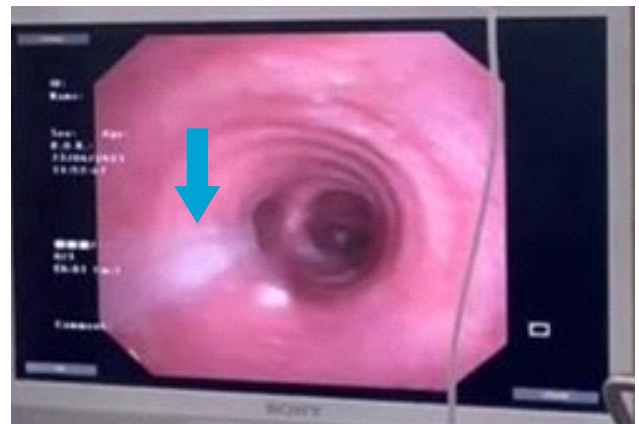
**Fig. 4: Fibrotic patch in Left Upper Lobe**



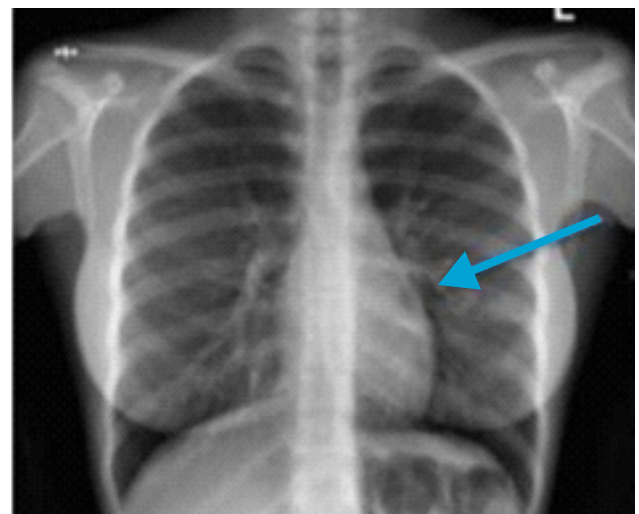
**Fig. 5: Ulceration with White Nodules**



**Fig. 6: Stenosis with Ulceration**



**Fig. 7: Mucus on Bronchus Wall**



**Fig. 8: Xray Showing Endobronchial Tuberculosis**

## DISCUSSION

Currently, five most-likely mechanisms are proposed in the development of EBTB: a) Direct spread from a parenchymal lesion b) Spread due to infected sputum implantation c) Haematogenous spread d) Erosion of lymph node into a bronchus e) Lymphatic spread (2) The forms of EBTB as per bronchoscopic findings

include : Oedematous-hyperaemic, fibrostenotic, tumorous, granular, ulcerative, and nonspecific bronchitic types. This new categorization is valued at forecasting the consequence as it is linked to the degree of disease development and is generally acknowledged for determining the EBTB by bronchoscopy (3) Symptoms include cough- dry or productive, fever, hemoptysis, anorexia, generalized weakness and weight loss. Localised wheezing and decreased breath sound can occur if the endobronchial lesion has a stenosing effect (4) as was demonstrated in this case. The patient was earlier being treated as a case of bronchial asthma before she presented to our hospital. Because of its varied and nondistinctive clinical symptoms, EBTB is more difficult to diagnose than pulmonary TB. Although sputum testing is the first and most important step in the diagnosis of EBTB, bronchoscopy and CT are the preferred procedures for accurate detection of bronchial involvement and accompanying consequences (5)

### CONCLUSION

Our case demonstrates the importance of bronchoscopy in the diagnosis of endobronchial tuberculosis which may be misdiagnosed otherwise. This particular patient was earlier treated as a case of

asthma based on her symptoms of breathlessness and auscultation findings whereas bronchoscopy confirmed it to be tuberculosis. The development of novel diagnostic technology is likely to make it easier to diagnose difficult-to-detect lung disorders in the future.

### REFERENCES

1. Middle lobe syndrome: an extraordinary presentation of endobronchial tuberculosis. Garg T, Gera K, Shah A. *Pneumonol Alergol Pol.* 2015;83:387-391
2. Endo-bronchial tuberculosis. Smart J. *Br J Tuberc Dis Chest.* 1951;45:61-68.
3. Chung HS, Lee JH. Bronchoscopic assesment of the evolution of endobronchial tuberculosis. *Chest* 2000; 117: 385-389.
4. Casali L, Crapa ME. Endobronchial Tuberculosis: a peculiar feature of TB often underdiagnosed. *Multidiscip Respir Med* 2012;7:35.
5. Jung SS, Park HS, Kim JO, et al. Incidence and clinical predictors of endobronchial tuberculosis in patients with pulmonary tuberculosis. *Respirology* 2015;20:488-95.



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