

Letter to the Editor

Endobronchial tuberculosis with primary multi-drug resistance: An under-recognized entity in Nepal



MDR-EBTB continues to be a diagnostic challenge in resource limited countries like Nepal due to its non-specific clinical presentation and requirement of more invasive and expensive tests like computerized tomography (CT) scan and bronchoscopy. I present cases of two young females with chronic cough and negative sputum smears whereby multi-drug resistant tuberculosis was diagnosed by bronchoscopic sampling.

Case 1

A 22 year old unmarried female presented with four months' history of dry cough, noisy breathing and exertional breathlessness. She denied preceding upper respiratory symptoms, hemoptysis, fever or weight loss. She had never received anti-tubercular drugs or been exposed to patients with active TB. She had received multiple courses of antibiotics, bronchodilators and steroids without any clinical benefit. Clinical examination revealed a thin-built lady with volume loss and absent breath sounds involving entire left lung fields. Chest X-ray was suggestive of total left lung collapse (Fig. 1A). Sputum for acid fast bacilli (AFB) was negative. Flexible bronchoscopy revealed significant stenosis of left main bronchus filled with caseous material obstructing the distal bronchial lumen (Fig. 1B) The right middle lobe bronchus was also obliterated. (Fig. 1C) Bronchial biopsy samples were taken which showed necrotizing granuloma with positive stains for AFB. Bronchial wash for GeneXpert was positive for mycobacterium TB, resistant to Rifampicin. Drug susceptibility test was suggestive of MDR-TB.

Case 2

A 20 year old unmarried female, presented with chronic dry cough and dull left sided chest pain for three months. She had preceding intermittent fever for one week which subsided with a course of levofloxacin. She had anorexia without significant weight loss during this illness. On chest auscultation, she had reduced intensity of breath sounds over left infrascapular region. Investigation revealed normal hemogram with raised ESR (60 mm/h). Two sputum AFB smears were negative. Chest imaging (X-ray and CT chest) were suggestive of collapsed left lower lobe (Fig. 2A and B). Flexible bronchoscopy showed whitish caseous plaques, nodules and ulcers on lower trachea extending towards entire left trachea-bronchial tree. (Fig. 2C) Bronchial wash was positive for GeneXpert with Rifampicin resistance. Mucosal brush and biopsy revealed necrotizing granuloma with plenty of AFBs. A primary MDR-EBTB was diagnosed in these patients and were started on second line regimen under national TB program. Two months following the regimen, they had symptomatic improvement though had persistent lung collapse in X-ray images.

The above cases represent commonly encountered diagnostic challenges in the management of drug resistant EBTB. Young females with chronic non-specific cough, minimal constitutional symptoms, poor response to usual medications and a negative AFB smear are classic presentations of isolated EBTB. They can be misdiagnosed as non-tubercular pathologies such as asthma, malignancy, foreign body or recurrent pneumonia. Chronic dry cough is a common presenting

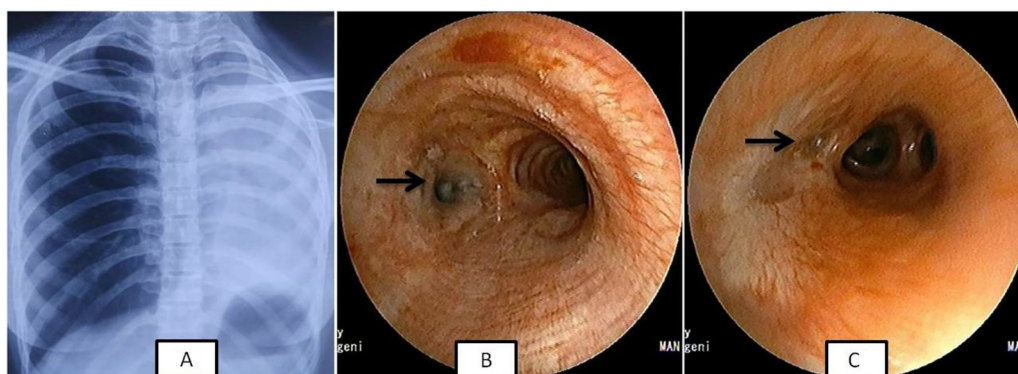


Fig. 1. Chest X-ray showing complete collapse of left lung (1A), bronchoscopy image of the same patient showing circumferential stenosis of left main bronchus (1B) and complete stenosis of opening of right middle lobe bronchus (1C). The arrows point towards the stenotic lesions.

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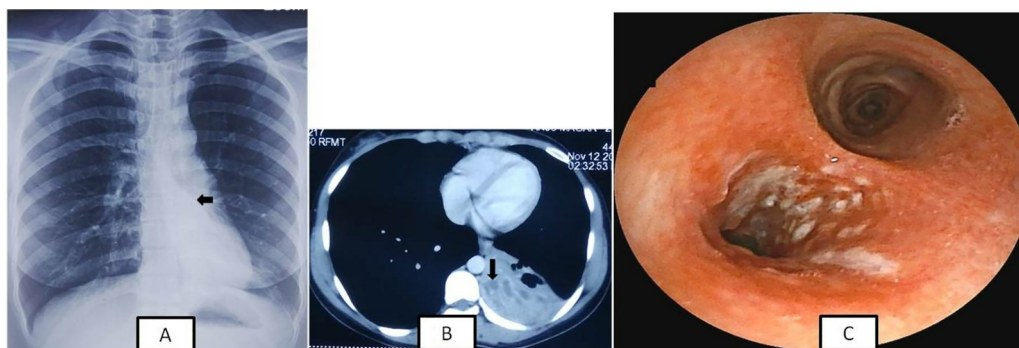


Fig. 2. Chest X-ray showing retrocardiac linear opacity (arrow) suggestive of left lower lobe collapse (2A). CT image of the same patient showing the collapsed lobe with bronchocele (2B). Bronchoscopy showing multiple nodules, caseous-white plaques and mucosal ulcers involving lower trachea and left main bronchus (2C).

complaint in nearly 80% of the patients. Constitutional symptoms are reported by very few, and hemoptysis is also uncommon. Positive sputum smear for AFB is observed in less than 25% patients, likely due to bronchostenosis and mucus entrapment by proximal bronchial granulation tissue [1,2]. A flexible bronchoscopy and CT imaging are usually required for the diagnosis of EBTB which may not be readily available in low resource countries like Nepal. Though GeneXpert has an important role in detection of MDR-TB, it has been recommended only for high priority groups [3]. So the key to diagnosis remains high index of suspicion and prompt referral for bronchoscopy. Apart from localization and visualization of abnormalities of tracheo-bronchial tree, bronchoscopy also provides adequate samples for microbiological and histopathological testing. Early diagnosis and treatment potentially avoids irreversible complications such as bronchostenosis and lung

collapse.

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