Chapter 107

Uncommon Presentations of a Common Disease: Tuberculosis

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INTRODUCTION

Despite of improved understanding in the pathogenesis and management of tuberculosis (TB), the disease continues to be the second leading cause of infectious disease-related death (after human immunodeficiency viral disease, HIV). The disease, largely treatable and perhaps preventable, assumes an epidemic in countries including India that accounts for one-fifth of the global TB burden. The spread of HIV/AIDS with the emergence of multiple drug resistant (MDR) tuberculosis add insult to injury. World Health Organization in 1993 hence took an unprecedented step and declared TB a global emergency. Left untreated, each person with sputum positive TB will infect on an average 10 people every year, thereby highlighting the relevance of early diagnosis. Considering the enormous scientific data available on TB diagnosis and therapy, the present effort is aimed at analysis and proposals on Revised National Tuberculosis Control Program (RNTCP).

Considering this burning impact of the disease more so in developing countries, RNTCP was established in 1993 as directly observed treatment strategy (DOTS). The program was extended to more and more districts as a public-private mix involvement, ensuring treatment in more than 85% and detection rate at 70%. The success of this program is directly related to the successful implementation of the DOTS regime in the recommended dose, rhythm and duration. The completion of therapy is ensured by keeping the track of patients enrolled in the scheme, with the efforts of public health field staff posted to DOTS centers.

CLINICAL PROFILE

The classical profile—evening pyrexia, sweating, loss of weight, chest pain and progressive dyspnea is not always present, posing problem in early diagnosis, that such patients present with features of complications late diverting the attention of the clinician. The situation is worse in extrapulmonary forms, when patients report to allied specialties. The present effort is to highlight the atypical or uncommon features where acid-fast bacilli (AFB) positivity is not often possible. Emergence of HIV in high-burden countries including India has caused limitation to microscopic diagnosis. Atypical radiological infiltrates without cavitation in the lower lung zones, distinct from the classical upper lobe lesions add insult to injury. Lack of recognized microscopy diagnostic centers and laboratory personnel expertise add problem leading to high AFB load and spread of disease. Ankles, sternoclavicular joints, submandibular and/or parotid salivary gland, head of pancreas, eye, sacrococcygeal (distinct from commoner thoracolumbar), anorectal region, mediastinal and/or porta hepatic lymph glands, and thyroid to name a few. Surgical resection of the organ affected can be avoided with early diagnosis and appropriate specific and equally important supportive therapy.

Jameja et al. reported a case of parotid gland TB where fine needle aspiration cytology could ensure early diagnosis, avoiding surgery. Shamimol documented a case with uncommon oral ulcer diagnosed as tuberculous granuloma relieved after antituberculosis therapy. Giudice et al. from France reported a case of infiltrated dural ulcerative lesion associated with military TB. Acid-fast bacilli were isolated from the necrotic tissue. Bilateral diffuse reticulonodular infiltrates on X-ray chest supported the pathological impression.

A 72-year-old lady with established osteoporosis of spine presented with progressive weakness and anorexia/pyrexia. It was ignored earlier elsewhere in view of the pre-existing backache. X-ray thoracolumbar spine was consistent only with degenerative changes. Magnetic resonance imaging (MRI) spine revealed parassacroccygeal abscess that highlighted the relevance of MRI in suspected cases. Raised adenosine deaminase, sterile culture of the aspirate (for other bacteria) and antituberculosis therapy (ATT) confirmed the clinical suspicion. Erythrocyte sedimentation rate cannot be relied upon in those with osteoporosis.

A 30-year-old male presented with jaundice that was diagnosed as extrahepatic obstruction. Imaging studies suggested a swelling of the head of the pancreas. Diagnostic laparotomy and histopathologic evaluation to our surprise turned out to be tuberculous abscess. He responded to ATT.

A 35-year-old female presented with dyspepsia and loss of weight. Upper endoscopy was not contributory. Computed tomography scan abdomen revealed multiple mesenteric lymphadenopathy, ileocecal mass and stricture cecum. Though imaging studies called for exclusion of malignancy, resected specimen confirmed it to be caseating granuloma that completely responded to ATT. Brief data of other cases are given in Table 1.

Jayswal et al. documented a case of recurrent acute tuberculous perforation of small intestine associated with miliary TB. He was admitted in surgical ward and routine preoperative evaluation disclosed miliary TB. He responded to ATT postoperatively. Diagnosis was supported by histopathological examination of the resected specimen.

Author observed a case of smear positive pulmonary TB in an elderly lady with established interstitial lung disease related to occupational/industrial exposure. Steroid therapy given for the latter morbidity could have caused reactivation of inactive TB focus. Persistent pyrexia despite antibiotic therapy prompted sputum
evaluation that unmasked the diagnosis. Nonhomogeneous bilateral lung infiltrates in the lower zone diverted the attention of TB.

Lower Lung Field Tuberculosis
Pulmonary TB is known for upper lobe involvement in immunocompetent individuals. Extrapulmonary TB and hypoimmune states are known to have lower lung TB.

Middle Lobe Syndrome
Middle lobe atelectasis of lung is not an uncommon clinicoradiological entity often missed in clinical practice. Right lower lateral view and in relevant cases, fiberoptic bronchoscopy will establish the diagnosis, whether it be endobronchial TB, intraluminal or extrinsic compression. Early intervention will prevent bronchiectasis that will prompt recurrent infection and surgery.14

Tuberculous Empyema
Empyema thoracis, though more often bacterial in origin, is an uncommon presentation of pleural effusion, known for considerable morbidity. As the therapeutic approach for the two entities is different, early evaluation to prevent multiloculated effusion and gross pleural thickening is essential. Significant lymphocytes, raised ADA and slow progressive onset will differentiate tuberculous empyema from other causes of life-threatening empyema. Video-assisted thoracic surgery early will reduce morbidity.

Endobronchial Tuberculosis
Early diagnosis before developing segmental/lobar atelectasis is mandatory. Classical upper zone infiltrates and/or cavitation will not be present in this case. Any patient presenting with recurrent hemoptysis and normal X-ray chest should call for exclusion of this largely treatable entity.

Tuberculosis and Human Immunodeficiency Virus
Any patient with HIV should be evaluated for TB and any patient with TB (extrapulmonary in particular) should be monitored for HIV, in view of the atypical clinical and lower lobe infiltrates without cavitation radiologically.15 Paucibacillary status and refractory therapeutic response add problem on this ‘cursed duet’ Mantoux negative response and progressive weakness should alert the clinician on this combination.

Pleural Effusion while on Antituberculous Therapy
Development of exudative pleural effusion after starting the conventional ATT should not be interpreted as drug-resistant TB, as it has an immunological basis.16 Concurrent steroid therapy for short period will resolve this problem.

Tuberculosis and Comorbidities
Lung cancer, interstitial lung disease, multiple primary tumors, pulmonary hydatid disease, diabetes mellitus, chronic obstructive pulmonary disease and silicosis may coexist. Any patient not responding to ATT should be monitored for the comorbidities, leaving aside multidrug and extensively drug-resistant (MDR/XDR) TB.15,17-19

Other Uncommon Forms
Refractory anemia, fulminant hepatic failure, hepatosplenomegaly, pyrexia of unknown origin, esophagocutaneous fistula, acute respiratory distress syndrome, multiple tuberculosis brain, isolated mediastinal lymphadenopathy, vasculitis (immunological) are other forms that are often misdiagnosed or underestimated.15

CONCLUSION
Tuberculosis is an age old disease well-known for variable features. The disease remains a global medical emergency that should draw the attention of clinicians, epidemiologists and microbiologists, more so in the emergence of HIV and diabetes. Tuberculosis should be considered in any patient with persistent pyrexia in high-burden countries including India. Therapy should not be delayed for want of definite microbiological diagnosis. Earlier institution of ATT in the conventional dose, rhythm for the recommended period reduces the morbidity and mortality of this global disease.

REFERENCES
2. Gopinathan VP. Pulmonary and EPT: Where are we? Oration delivered at IMA Trichur Annual Event; 2010.