Title: Smear negative pulmonary tuberculosis in HIV: Over diagnosed or under investigated

Body: Introduction: A significant proportion of HIV infected individuals with respiratory complaints and abnormal chest radiograph are labelled as tuberculosis and started empirical treatment without detailed investigations. Aims: The aim of the study was to verify the empirical diagnosis of smear negative pulmonary tuberculosis in HIV infected individuals using diagnostic modalities available at a tertiary medical center in resource limited settings. Methods: 50 HIV infected individuals with respiratory complaints, an abnormal chest radiograph, and negative sputum for AFB and labelled smear negative pulmonary tuberculosis underwent detailed history, physical examination, and a series of microbiological investigations. HRCT scans of the chest were performed to verify the chest x-ray findings. In the absence of definitive diagnosis on the initial smears, the patients underwent bronchoscopy and sampling of respiratory secretions from the affected areas. Results: Out of the fifty patients enrolled in the study, definitive diagnosis was reached in 47 patients of which 14 patients (28%) had bronchiectasis, 13 patients (26%) had Pneumocystis jiroveci pneumonia, 5 patients (10%) bacterial pneumonia, and 8 patients (16%) had fungal pneumonia. 6 patients (12%) had non infective conditions like cardiomyopathy (3 patients), bronchial asthma (1 patient), non small cell carcinoma (1 patient), and interstitial lung disease (1 patient). Only 1 patient was confirmed to have tuberculosis on sputum AFB culture and also on bronchial washings AFB smears. Conclusion: A wide variety of respiratory conditions other then tuberculosis can be definitively diagnosed in HIV infected individuals if investigated in detail.