



An Occurrence of Silicosis Causing Tuberculosis

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Abstract

Silicosis is an occupational lung disease caused by an exposure to crystalline silica dust. As it causes fibrosis of lungs, it also paves the way for increased intracellular replication of Mycobacterium Tuberculosis. Here we present a case of a 45 year old man, a stone quarry worker with a history of prolonged exposure to silica dust. The patient presented with progressive cough, fever and weight loss. Sputum microscopy revealed presence of Acid fast bacilli. Radiographic imaging revealed bilateral nodular opacities in the upper lung zones; Pulmonary function test suggestive of restrictive pattern with reduced FVC and decreased diffusion lung capacity for CO. Thus this case highlights the importance of recognising and preventing silica dust exposure in occupational settings and need for early detection of TB and its management.

Introduction

Tuberculosis, an infection accounts for major part of immune compromised status. Despite vaccination and treatment in last 3 decades, it poses a high burden for people. And silicosis is a preventable occupational lung disease seen in people working in mines, quarry and construction where exposure to silica occurs. We present the case of MDR

Pulmonary tuberculosis in a young man with silicosis empathising the need to prevent and detect occupational disease early such that its complication shall be avoided.

Case Presentation

A 45 year old man from YYY, working in a stone quarry since age 16 is presented with fever, progressive productive cough, weight loss for the past 2 months .He had been in the quarry for the past 30 years, where he had exposure to silica dust without adequate respiratory protection. Physical examination revealed decreased breath sounds and fine inspiratory crackles heard all over lung fields. The patient had no significant medical history and was non smoker.

Diagnostic Assessment

Chest X ray showed bilateral well defined nodular opacities predominantly involving upper lung zones. HRCT demonstrated well defined lesion

over Left parahilar region and nodular and reticular opacities and mediastinal lymphadenopathy consistent with silicosis. PFT revealed restrictive pattern with decreased FVC, decreased diffusion lung capacity for CO. Sputum microscopy showed AFB; Gene expert shows MDR TB. Other lab investigations ruled out other potential causes of ILD

Management and Outcome

Patient was started on Kanamycin, Levofloxacin, Ethionamide, Ethambutol, Pyrazinamide, Cycloserin. He was advised to cease further exposure to silica dust. He was provided with counselling regarding TB medications, side effects and need of regular follow up. After 2 months, he was reassessed and he was symptomatically better and his drug compliance continues to be good and that he recovered after 8 months.

Discussion

Silicosis is a preventable occupational disease that continues to pose a significant health hazard by paving way for intracellular replication of mycobacterium tuberculosis. The evidence is robust for strongly elevated risk of TB with radiological silicosis with a low disease severity threshold. This case empathises the important implications for policies and practises to protect silica exposed workers and also mandates antibiotic stewardship program to minimise the emerging resistance

Conclusion

TB remains a major disease of concern in our country. Efforts should focus on early detection of susceptible persons, counselling and proper treatment and follows

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