

Case Report

# Silicosis - A Missed Opportunity to Identify an Occupational Hazard

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## A B S T R A C T

Silicosis remains an underdiagnosed disease despite being a prevalent one due to delayed diagnosis, ignorance among patients and doctors, and lack of seeking occupational history of patients. We report a case of a young male who presented with acute onset pneumothorax and was later diagnosed as having undiagnosed silicosis only after a CT-chest which prompted the treating physicians for the diagnosis.

**Keywords:** Notification, Occupational Disease, Silicosis, Pneumothorax

## Introduction

Silicosis remains an ignored disease entity in India despite its widespread prevalence. This case highlights the delay in diagnosing silicosis in a young male presenting with pneumothorax.

## Case

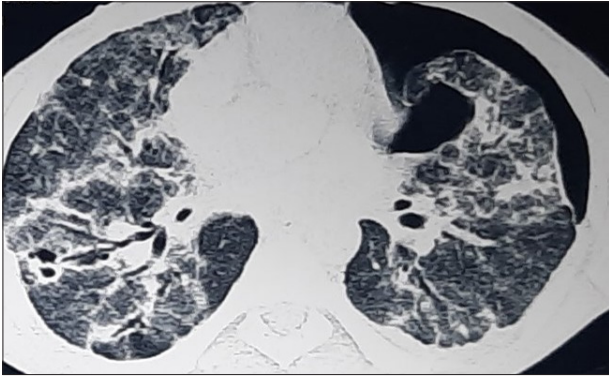
A 38-year-old patient presented to emergency with acute onset breathlessness with no history of fever or cough. On presentation, the patient was gasping and had a saturation of 70% on room air reaching 82% even on 8 Litres/minute (L/m) of oxygen via nasal prongs. There was an absent air entry in the left side of the chest and a chest X-ray done from a local hospital revealed a left-sided pneumothorax. An urgent intercostal drainage (ICD) tube was put in and the patient's clinical condition improved. He was shifted to the pulmonary ward and maintained on 3 L/m oxygen

with a SpO<sub>2</sub> of 90%. The patient retrospectively gave a history of breathlessness on exertion for the past 12 months which was not evaluated despite many local doctor visits. There was no history of smoking or any substance abuse. There was no history of lifting heavy weights, previous pneumothorax, marfanoid features or any trauma in the past.

A CT-chest done subsequently revealed a residual pneumothorax with underlying lung fibrosis (Figure 1) along with calcified mediastinal lymph nodes. The findings were suggestive of underlying silicosis. The patient was probed for occupational history in which he revealed he had worked in a sand-blasting site 10 years back in western India for 5 years.

After complete lung expansion, pleurodesis was done and ICD was removed. The patient improved to maintain a

room air saturation of 92% with a  $pO_2$  of 64 mmHg. Sputum investigations revealed no acid-fast bacilli and no growth in mycobacterial and pyogenic culture. The patient was vaccinated with pneumococcal and influenza vaccines, taught chest physiotherapy and rehabilitation, notified to the hospital authorities as a case of silicosis and discharged with the advice of serial follow-up.



**Figure 1.** CT-chest showing a Residual Pneumothorax with underlying Lung Fibrosis

## Discussion

Our patient was 38 years old and belonged to the economically productive age group. This has also been observed in previous studies that most of the people affected by silicosis are middle-aged adults.<sup>1</sup> Silicosis is a preventable disease. A report from ILO has quoted that there are 3 million people in India who are having the occupational risk of developing silicosis.<sup>2</sup> But, this is just an estimate and there are no official statistics available on mortality and morbidity of silicosis in India. The cases which are notified to the enforcement agencies are merely the tip of the iceberg!

Classical silicosis sometimes is completely asymptomatic, although may show numerous nodules on X-ray.<sup>3</sup> This case brings to light the vast majority of underdiagnosed silicosis in India. Ignorance among the workers, family and even doctors often lead to a late diagnosis and complications including pneumothorax and tuberculosis. Even in our tertiary care centre, the occupational history from the patient was sought only after the radiology was suggestive of underlying silicosis. Despite being a notifiable disease, notification for silicosis is often not done due to a multitude of reasons: the absence of a national nodal authority, national programme, national registry, and majorly lack of education and awareness among industry workers and even healthcare workers.<sup>4,5</sup> Besides, the importance of taking occupational history cannot be overemphasised.

## Conclusion

A positive history of working in Western India (an endemic region for silicosis), should itself be sufficient enough to

generate a high index of suspicion for silicosis among physicians and healthcare workers in patients presenting with pneumothorax with underlying chronic dyspnoea. Mandatory inclusion of occupational history in the case sheet is the need of the hour!

**Conflict of Interest:** None

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