

Silicosis: progressive massive fibrosis with eggshell calcification

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DESCRIPTION

A 35-year-old man, a never smoker, had a cough and breathlessness for 1 year. He had worked as a stone crusher for 8 years. Apart from decreased breath sounds on auscultation, his physical examination was within normal limits. Pulmonary function testing was suggestive of moderately severe restriction with reduced diffusion capacity. Chest X-ray revealed diffuse reticulonodular shadows and multiple mass-like symmetrical lesions with irregular margins separated from the pleura by aerated lungs, an appearance known as 'angel's wings'¹ (figure 1).

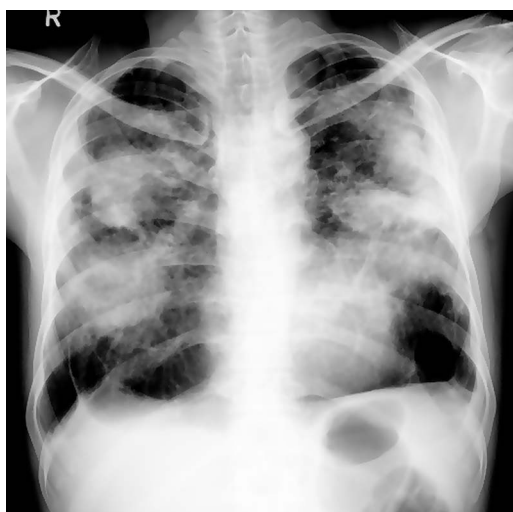


Figure 1 Chest X-ray on presentation showing reticulonodular shadows and multiple mass-like symmetrical lesions with irregular margins. This is known as 'angel's wings' appearance. The lateral interfaces of the mass lesions parallel the lateral chest wall.

CT of thorax demonstrated eggshell calcification of lymph nodes and within the masses (figure 2A, mediastinal window), along with large, symmetrical, bilateral, conglomerate masses having irregular margins and nodular densities (figure 2B, lung window). Furthermore, lateral interfaces of the mass lesions were parallel to the lateral chest wall. Imaging, supported by occupational history, was suggestive of progressive massive fibrosis (PMF) due to silicosis.

Radiologically, silicosis caused by inhalation of silica particles can be classified as simple or complicated silicosis also known as PMF, which presents with large and conglomerate opacities. These opacities, with ill-defined margins, are larger than 1 cm, symmetrical in distribution and often with calcifications and surrounding emphysematous areas.² The lateral interfaces of the lesions are characteristically parallel to the lateral chest wall, as seen in our patient. Patients with silicosis and coal-worker's pneumoconiosis are commonly affected with peripheral calcification of lymph nodes known as 'egg-shell calcification'.³ Approximately a fourth of these patients have silicotuberculosis,² but we were unable to find any evidence in our patient.

Learning points

- ▶ Complicated silicosis or progressive massive fibrosis is characterised by mass lesions.
- ▶ Lateral interfaces of the masses typically parallel the lateral chest wall.
- ▶ 'Eggshell calcification' or peripheral calcification is a characteristic feature of progressive massive fibrosis seen in silicosis.

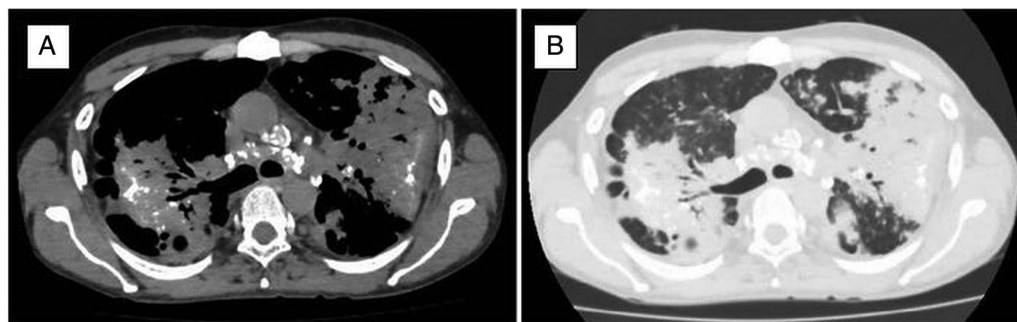


Figure 2 Non-contrast high-resolution CT of thorax showing (mediastinal window: A) eggshell calcification of lymph nodes and calcification within the masses; (lung window: B) large, symmetrical, bilateral conglomerate masses having irregular margins and nodular densities. The lateral interfaces of the mass lesions parallel the lateral chest wall.



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