



Egg-Shell Calcifications

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A man in his late fifties presented to us with dry cough and gradually progressive shortness of breath for 5 years, with breathlessness at rest for the last 6 months. There was no history of fever, chest pain, hemoptysis, loss of appetite, weight or connective tissue disease features. He has not been working for the last 5 years before which he worked in a cast making factory for 20 years with history of silica exposure. There was pandigital grade 3 clubbing. Chest auscultation revealed bilateral diffuse fine inspiratory crepitations. His chest radiograph showed bilateral diffuse non homogenous opacities with upper zone predominance, bilateral volume loss, mediastinal and hilar calcifications (Panel A). We performed contrast enhanced computed tomography (CECT) chest which revealed bilateral upper lobe dense fibrotic lesions representing progressive massive fibrosis, with areas of cavitation and calcification within. In addition, bilateral diffuse nodular opacities, mediastinal and hilar lymph node calcifications were seen (Panel B, C, D). The pattern of calcification was the classical 'eggshell calcification', with a calcified rim around the periphery of the lymph nodes.

To avoid over-reading of the incidental circumferential concentrations of calcium and to differentiate it from the ring shadows due to end-on view of the large bronchi, Jacobson and Felson in 1967 [1] described the diagnostic criteria for eggshell calcification as follows:

1. Shell-like calcification up to 2 mm thick must be present in the peripheral zone of at least two lymph nodes.
2. The calcification may be solid or broken.
3. In at least one of the lymph nodes, ring-like shadow must be complete.
4. The central part of the lymph node may show additional calcification.
5. One of the affected lymph nodes must be at least 1 cm in its greatest diameter.

All the features described by Jacobson et al were present in our case. The diagnosis of chronic silicosis was made on clinicoradiologic basis in conjunction with a conducive occupational history. His spirometry showed severe restriction. Associated pulmonary tuberculosis, systemic sclerosis or lung malignancy was

ruled out. We notified the occupational safety department. He was evaluated and added to the prospective lung transplant candidate list.

Strada and LoStorto suggested that the peripheral calcification relates to the location of the subcapsular sinus, which drains the afferent lymphatics. Microscopic calcification of lymph nodes containing eggshell calcification in a patient with silicosis revealed that silica was distributed evenly throughout the nodes, even though calcium was limited to the periphery.[2] Egg shell calcification though classically seen in silicosis, has also been observed in coal worker's pneumoconiosis, sarcoidosis, scleroderma, postirradiation Hodgkin's lymphoma, blastomycosis, histoplasmosis, and amyloidosis.[2] Increasing awareness and implementing effective preventive strategies are essential for reducing the incidence and morbidity in at-risk populations.

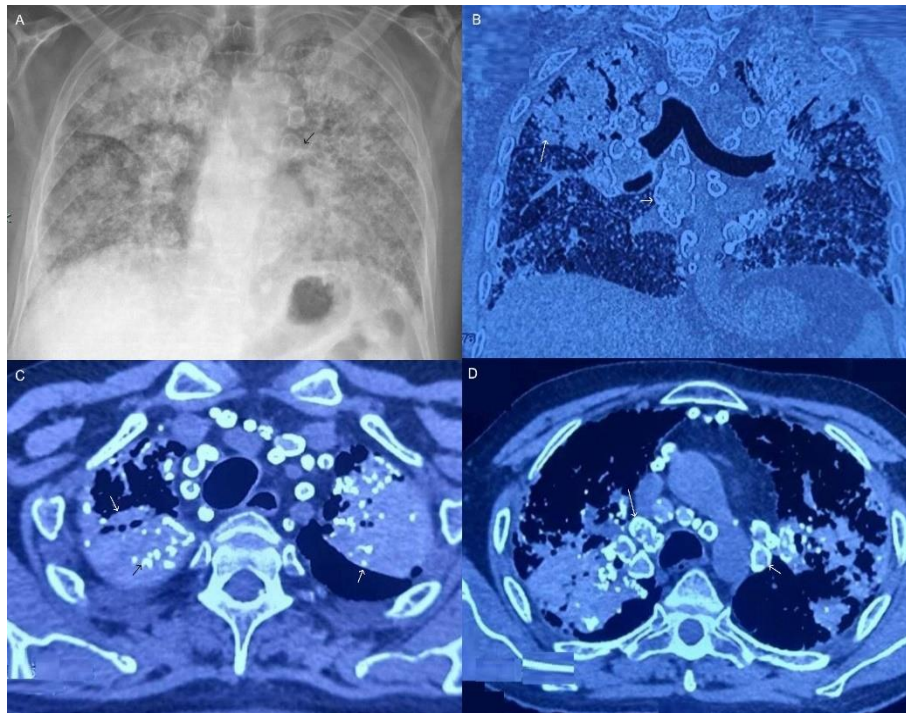


Figure 1

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