Case 14

History
60-year-old male with history of previously treated TB and chronic lung disease. 30-year history of construction work, including masonry cutting and sandblasting.

PA chest radiograph shows multiple calcified 1 - 5 mm pulmonary nodules. There are eggshell calcifications in hilar lymph nodes bilaterally. Cavitary lesions of intermediate wall thickness are present in both lung apices.

Diagnosis?

Diagnosis
Silicotuberculosis.

Findings
Silicosis refers to lung disease due primarily to free silicas, which are present in many rocks in the Earth's crust, with quartz being the most important crystal. Exposure was common during World War II among individuals who worked in quarries drilling quartz-containing rocks, drilling tunnels, cutting or polishing masonry, sandblasting and cleaning boilers, or casting in iron or steel foundries.

An exposure of 10 to 20 years is usually needed before radiographic signs develop. These include multiple 1 - 3 mm nodules which are more numerous in the posterior upper two-thirds of the lung. There may be a reticular pattern associated with these nodules, which often calcify. The nodules may increase in size and involve all lung zones. Hilar and mediastinal adenopathy may occur with calcification, often of the eggshell type.

Progressive massive fibrosis, which is defined as nodules greater than 1 cm in diameter, may occur in silicosis, but they are identical to those seen in coal workers' pneumoconiosis. These develop when silicotic nodules coalesce with contraction of the lungs, usually the upper lobes. Resultant bullous spaces develop, surrounding the conglomerate masses, which also can cavitate secondary to necrosis. Tuberculous infection often can co-exist in some cases of silicosis, as was the case in this patient.