

# Historical Treatment of Cavitory Tuberculosis



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Two patients in their 80s were undergoing evaluation for valvular heart disease. They endorsed remote history of cavitory tuberculosis that was treated in their 20s. Both patients remained free of reactivation tuberculosis since. The first patient's chest radiograph showed left upper lobe collapse created by multiple polyethylene balls (each <1 inch in diameter) tightly packed in the extrapleural space of the left upper hemithorax (Figure A). The second patient's radiograph showed a large, densely calcified opacity in the right upper hemithorax with complete collapse of the right upper lobe caused by extrapleural injection of paraffin oil (Figure B).

Tuberculosis affects one-quarter of the human population and is the second leading infectious cause of death (behind COVID-19) with 1.5 million deaths worldwide as of 2020.<sup>1</sup> Extrapleural pneumonolysis was often used to treat cavitory upper lobe tuberculosis during the 1930s to 1950s and was discontinued after the introduction of effective antitubercular therapy. The chest wall was stripped off the parietal pleura on the affected side,

and the space was filled with inert substances such as Lucite balls, a process known as plombage (Figure A), or mineral paraffin oil, a process called oleothorax (Figure B). The intent was to cause underlying lobar collapse, which was believed to promote healing. Potential complications included hemorrhage, fistula formation, infection, and expansion or rupture of the space, which could occur many years after the procedure.<sup>2</sup> Imaging manifestations of extrapleural pneumonolysis are rarely encountered in current practice. Increased awareness of these entities may prevent unnecessary alarm and expensive diagnostic tests to exclude infection or malignant disease.

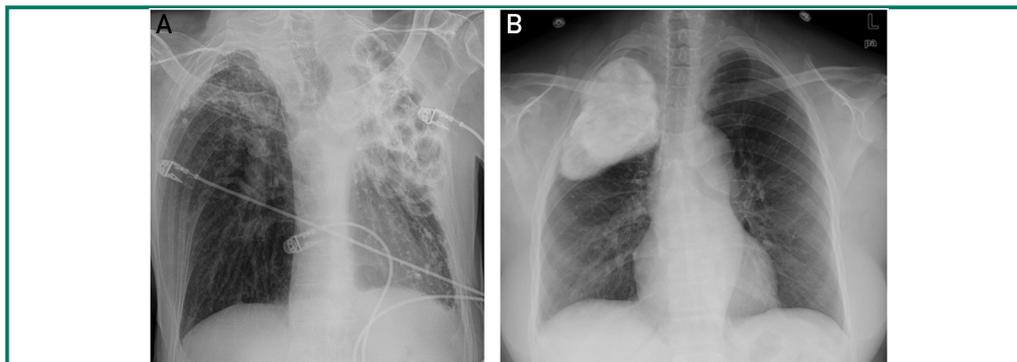
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## POTENTIAL COMPETING INTERESTS

The authors report no competing interests.

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1. Chakaya J, Khan M, Ntoumi F, et al. Global Tuberculosis report 2020—reflections on the global TB burden, treatment and prevention efforts. *Int J Infect Dis.* 2021;113(suppl 1):S7-S12.
2. Namana V, Gupta SS, Sarasam R, Mathur P. Historical TB treatment—plombage. *QJM.* 2017;110(3):191.



**FIGURE.** A, An 89-year-old man was treated for pulmonary tuberculosis in his 20s by plombage. Posteroanterior chest radiograph shows left upper lobe collapse created by multiple Lucite balls, each approximately 1 inch in maximum diameter, which are tightly packed in the extrapleural space of the left upper hemithorax. B, An 85-year-old woman was treated for pulmonary tuberculosis in her 20s by extrapleural injection of paraffin oil (oleothorax). Posteroanterior chest radiograph shows a large, densely calcified opacity in the right upper hemithorax with chronic complete collapse of the right upper lobe.