

Images in Thorax

In digging up the past of this 90-year-old man, a recent Eastern European immigrant to the USA, what is a historical treatment for an ongoing endemic disease he might have received?



Answer: Oleothorax with expansion.

This 90-year-old man presented for an incidental finding on a chest radiograph of an opacification of the entire left hemithorax. He denied chest pain, haemoptysis, cough, fever, weight loss, night sweats or dyspnoea. Review of the patient's history revealed that 60 years ago he was treated in a sanatorium in Russia, and recalls that his 'lung was collapsed'. CT imaging revealed a well-defined pleural homogenous opacity

with sharp margins, partly calcified, occupying most of the left hemithorax. The density of the opacity measured -36 Hounsfield units. The expansion in the volume of this lipid density fluid is evident from the generalised compression of the lung parenchyma and airways, and contralateral displacement of the mediastinum (figure 1).

Collapse therapy was the cornerstone of treatment for pulmonary tuberculosis up until the 1950s, and was used in up to 70% of all sanatorium patients.¹ This was achieved by several techniques, such as artificial pneumothorax, artificial pneumoperitoneum, diaphragmatic paralysis, plombage or by thoracoplasty. In our patient, it was done by pleural space injection of oil.

Chronic expansion of the oleothorax is best explained by stimulation of pleural fluid production by the oil.² This expansion may occur chronically after the oleothorax has been stable for years and is frequently asymptomatic. Less commonly, the expansion may be acute causing respiratory compromise and requiring removal. As our patient was asymptomatic, no interventions were deemed necessary.

Recognition of oleothorax using Chest CT imaging will allow for appropriate management if there are complications, such as loculated pleural effusions, empyema, or tuberculosis reactivation, and avoiding unnecessary interventions when patients are asymptomatic and no complications suspected.

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Competing interests None.

Provenance and peer review Not commissioned; internally peer reviewed.

Received 20 March 2012

Accepted 15 May 2012

Published Online First 29 June 2012

Thorax 2012;**67**:1122. doi:10.1136/thoraxjnl-2012-201932

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Figure 1 Coronal reformatting contrast-enhanced chest CT image with mediastinal window setting.