Empyema Necessitatis

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Figures 1 and 2. MRI of the chest showing extension of infected fluid into the right posterior chest wall.

A 45-year-old man with a history of incarceration complained of right sided chest pain, nonproductive cough, and an area of painful swelling on his right back. Magnetic resonance imaging (MRI) of the chest showed empyema necessitatis (Figs. 1 and 2). A purified protein derivative (PPD) test was positive at 13 mm of induration. Three acid-fast bacilli sputum smears were negative and he underwent drainage through chest tube placement. Blood cultures and drained fluid cultures were both negative. He was started on four-drug therapy for suspected tuberculous empyema necessitatis. After discharge, sputum cultures grew out *Mycobacterium avium* complex and *Mycobacterium gordonae*. He was continued on isoniazid, pyrazinamide, rifampin and ethambutol, but did not receive a full course of treatment due to poor compliance.

Empyema necessitatis is a rare complication of empyema that occurs when pleural infection extends into the chest wall.¹ The most commonly reported pathogen is *Mycobacterium tuberculosis*, followed by *Actinomyces* species. Other organisms that have been implicated as causes of empyema necessitatis include *Streptococcus pneumoniae*, *Staphylococcus aureus*, *Streptococcus milleri*, *Burkholderia cepacia* and *Mycobacterium avium-intracellulare*.² Often no causative organism is identified. The treatment of empyema necessitatis is surgical drainage in combination with antimicrobials, including consideration of antituberculous medications when appropriate.²

Conflict of Interest: The authors declare that they have no conflicts of interest.

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