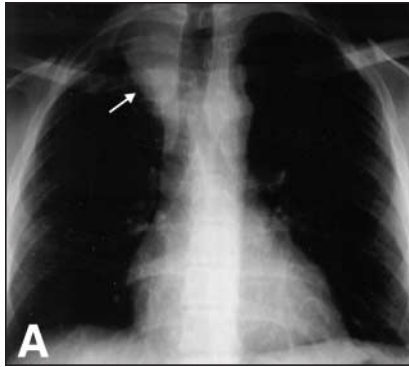


Pulmonary abscess with bacteremia in a young man



OFA 37-year-old man who had been living for 2 years in an unheated parking garage in Western Europe presented to an emergency department with a 4-week history of severe interscapular pleuritic pain, hemoptysis, malaise and fever. He had previously been well and had no history of alcohol or drug abuse, but he did smoke cigarettes. His vital signs were normal except for a temperature of 40°C, and the rest of his physical examination was unremarkable. Leukocyte and C-reactive protein levels were high. Sputum cultures and stains for acid-fast bacterium were negative. A chest radiograph showed a space-occupying lesion next to the upper mediastinum (Fig. 1A), and a thoracic CT scan showed a tumour-like mass that extended into the apical lung and paravertebral region (Fig. 1B). Cranial and abdominal CT scans were normal. A biopsy of the lesion revealed purulent inflammation and focally increased interstitial fibrosis but no sulfur granules. There were no signs of vasculitis, granulomatous inflammation or malignant growth. The patient was given flucloxacillin intravenously. Six days after admission, his blood cultures tested positive for *Actinomyces meyeri*. He experienced a drug exanthema, and clindamycin was given orally instead, for a period of 20 weeks. The patient became asymptomatic after 4 weeks and was discharged from hospital. At follow-up 8 months after presentation, the man was well;

there was no radiographic evidence of his pulmonary mass.

Actinomyces are gram-positive aerobic-growing bacteria that are part of human bacterial flora. They usually occur in a commensal relationship with the host, growing, in particular, on teeth and other surfaces in the mouth. *Actinomyces* infections, which are more prevalent among men than among women (3:1), usually affect patients in their fourth decade and most often involve *A. israeli* (85%). *A. meyeri* is less common. Actinomycosis occurs most frequently with cervicofacial involvement (in up to 65% of cases); thoracic, abdominal or pelvic actinomycosis is uncommon. Pulmonary infections and hematogenous spread result more often from *A. meyeri* than from other actinomycetal species.¹ Dentogingival disease is a risk factor for acquiring *A. meyeri* infection, and alcoholics are at high risk for pulmonary actinomycosis because of their poor dental health and the higher likelihood of aspiration of oral secretions.

Actinomycosis has a slowly progressive course and, sometimes, a history of preceding gingival trauma. Radiographically, a mass lesion or abscess (cervicofacial, thoracic, abdominal or pelvic) is often seen, but pneumonitis, cavitory disease or hilar adenopathy can occur. Material for direct microscopy and culture should include as much pus as possible to increase the chance of

visualizing the diagnostic, yellow-appearing sulfur granules, which consist of aggregated microorganisms. Blood cultures often allow direct detection and classification of *Actinomyces*. In many cases of extended pulmonary actinomycosis, only thoracoscopic resection or fine-needle biopsy have led to the correct diagnosis.² Surgical resection is rarely needed. The important differential diagnoses include lung cancer and tuberculosis as well as diseases such as pulmonary nocardiosis or dirofilariasis. Penicillin G is the treatment of choice for actinomycosis, although other agents are active in vitro and in vivo, such as tetracycline, erythromycin and clindamycin. Cure can often be achieved in many patients with less than 6 months of therapy.³

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