Short reports

Mycobacterium fortuitum lung abscess treated with ciprofloxacin

J Vadakekalam, M J Ward

Abstract

***Mycobacterium fortuitum* rarely causes lung disease. Although treatment in the past has included intravenous antibiotics, this is the first report of a *Mycobacterium fortuitum* lung abscess that resolved with a prolonged course of oral ciprofloxacin alone. There is no evidence of recurrence 14 months after the end of treatment.**

Mycobacterium fortuitum is an environmental organism, found most frequently in water and soil. It is opportunistic and rarely causes disease. Soft tissue infections causing abscesses have been reported with *M fortuitum*[1] but pulmonary disease is uncommon.[2] When it has occurred treatment has included surgical drainage and antimicrobial treatment.[2–4] Strains are invariably resistant to conventional antituberculous drug treatment, but are often sensitive to amikacin, cefoxitin, doxycycline, and more recently ciprofloxacin.[3 5 6]

We describe the response of *Mycobacterium fortuitum* lung abscess to prolonged treatment with ciprofloxacin.

Case report

A 53 year old heterosexual married man noted increasing breathlessness and cough with purulent sputum for eight weeks before referral to hospital. He had fevers and had lost about 5 kg in weight. His family practitioner had prescribed amoxycillin without benefit. The development of right sided pleuritic pain led to his admission to hospital. On examination he was not breathless but had a temperature of 38·2°C. His heart rate was 90 beats/min and his blood pressure 120/90 mm Hg. There was no lymphadenopathy or finger clubbing. Clinical examination showed nothing abnormal apart from a reduced percussion note at the right base posteriorly with inspiratory and expiratory crackles over the same area. He denied contact with patients with tuberculosis, was a non-smoker, and had worked above ground for British Coal.

Laboratory results revealed a haemoglobin concentration of 14·5 g/dl, a normal platelet count and a white cell count of $12·2 \times 10^9$/l with $11·7 \times 10^9$/neutrophils. Platelets were normal. Serum electrolytes, urea, creatinine, alanine transferase, alkaline phosphatase, and calcium concentrations were normal, as was the serum α_1 antitrypsin concentration. The chest radiograph showed small bullae at both bases with abscesses on the right (fig 1). Computed tomography of the thorax showed emphysema in both lungs with some bullae and at least two cystic structures containing fluid on the right. The largest occupied most of the posterior segment of the right lower lobe.

Examination of sputum identified acid fast bacilli on direct smear and he was started on antituberculous treatment with rifampicin, isoniazid, and pyrazinamide. One week later the organism was identified in culture as *Mycobacterium fortuitum*, and this was confirmed on four separate samples. Pus was obtained by direct percutaneous aspiration of fluid at the right lung base and the same organism was isolated from the pus. The organism was sensitive to amikacin, ceftizoxime, and ciprofloxacin. He was started on oral ciprofloxacin 750 mg twice daily for two weeks and the antituberculous treatment was stopped. He then continued with oral ciprofloxacin 250 mg twice daily.

Within a week of starting treatment he showed signs of improvement; the fever resolved and he began to put on weight. Within four weeks the sputum was clear of mycobacteria according to both direct smear and culture. Serial chest radiographs showed gradual reduction in the size of the abscess, which finally resolved (fig 2). Oral ciprofloxacin was continued for nine months with no adverse effect. He has been seen for a further 14 months and has shown no evidence of recurrent infection.

Discussion

Although *M fortuitum* is often described as a commensal of the respiratory tract[2] there can

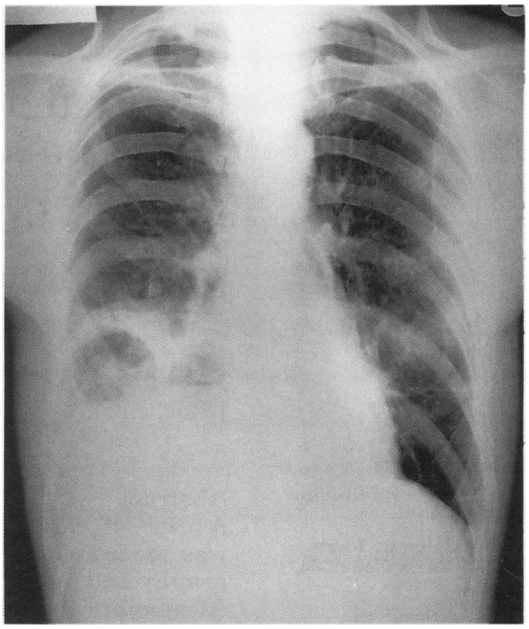

Figure 1 Radiograph showing abscesses with fluid levels at the right base.

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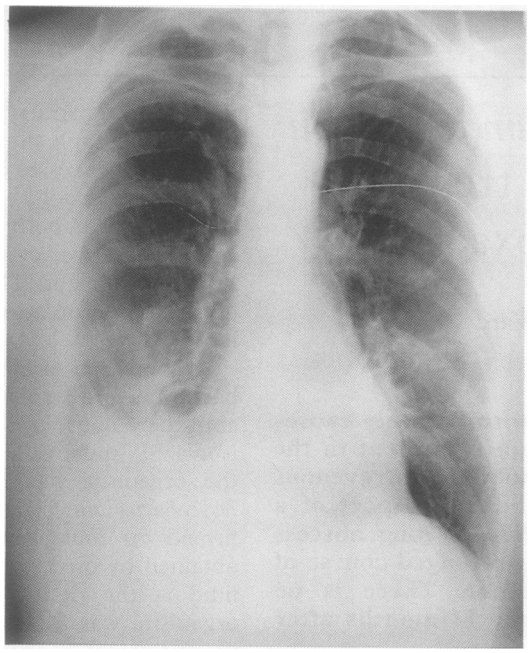

Figure 2 Chest radiograph after nine months' treatment.

be no doubt that in this case the organism was acting as a pathogen. *M fortuitum* was isolated from sputum on several occasions and from a direct percutaneous aspirate. No other organisms were isolated. This appears to be the first lung abscess due to *M fortuitum* that resolved with ciprofloxacin alone.

M fortuitum has been shown to be responsible for several skin and soft tissue infections.[1 2 4 7] In the lungs *M fortuitum* is known to cause pneumonia, abscess, and empyema,[3] usually in patients with chronic pulmonary disease, such as pneumoconiosis or emphysema, or a history of chronic aspiration.[1 2 4] Our patient had bullae at both lung bases on the computed tomogram, but no other predisposing cause was identified.

The treatment of *M fortuitum* is not well established. It usually requires a combination of antimicrobial treatment and surgical débridement.[3 4] The suggested antimicrobial treatment has been amikacin and cefoxitin for at least six weeks, the time depending on the severity of the disease.[3] Ciprofloxacin and other fluorinated quinolones have been shown to be active against *M fortuitum* in vitro.[5 6] Ciprofloxacin has been used in treating one patient with peritonitis[8] and another with disseminated disease affecting the lungs.[9] The related fluoroquinolone ofloxacin has also been used successfully in a case of *M fortuitum* lung infection.[10]

There is no consensus about the duration of treatment. Ciprofloxacin was continued for nine months in this patient; ofloxacin was given for a year.[10] Treatment for a shorter time may have produced a similar result.

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1 Wallace RJ, Swenson JM, Silcox VA, Good RC, Tschen JA, Stone MS. Spectrum of disease due to rapidly growing mycobacteria. *Rev Infect Dis* 1983;5:657–79.
2 Hand WL, Sanford JP. *Mycobacterium fortuitum*—a human pathogen. *Ann Intern Med* 1970;73:971–7.
3 Wallace RJ, Swenson JM, Silcox VA, Bullen MG. Treatment of nonpulmonary infections due to *Mycobacterium fortuitum* and *Mycobacterium chelonei* on the basis of in vitro susceptibilities. *J Infect Dis* 1985;152:500–14.
4 Wolinsky E. Nontuberculous mycobacteria and associated diseases. *Am Rev Respir Dis* 1979;119:107–59.
5 Swenson J, Wallace R, Silcox V, Thornsberry C. Antimicrobial susceptibility of five subgroups of *Mycobacterium fortuitum* and *Mycobacterium chelonei*. *Antimicrob Agent Chemother* 1985;28:807–11.
6 Young LS, Berlin OGW, Inderlied CB. Activity of ciprofloxacin and other fluorinated quinolones against mycobacteria. *Am J Med* 1987;82(4A):23–6.
7 Woods GL, Washington JA. Mycobacteria other than *Mycobacterium tuberculosis*: review of microbiologic and clinical aspects. *Rev Infect Dis* 1987;9:275–94.
8 Woods GL, Hall GS, Schreiber MJ. *Mycobacterium fortuitum* peritonitis associated with continuous ambulatory peritoneal dialysis. *J Clin Microbiol* 1986;23:786–8.
9 Burns DN, Rohatgi PK, Rosenthal R, Sieler M, Gordin F. Disseminated *Mycobacterium fortuitum* successfully treated with combination therapy including ciprofloxacin. *Am Rev Respir Dis*1990;142:468–70.
10 Ichiyama S, Tsukamura M. Ofloxacin and the treatment of pulmonary disease due to *Mycobacterium fortuitum*. *Chest* 1987;92:1110–2.

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Computed tomography and magnetic resonance findings in lipoid pneumonia

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Abstract

A case of exogenous lipoid pneumonia was documented by computed tomography and magnetic resonance imaging. Although strongly suggesting the presence of fat on T1 weighted images, magnetic resonance does not produce images specific for this condition. Computed tomography is the best imaging modality for its diagnosis.

Exogenous lipoid pneumonia may be difficult to diagnose because a history of oil ingestion is often missed, and also because the condition may mimic many other diseases, especially lung tumours.[1] We report a case in which computed tomography and magnetic resonance imaging were used in diagnosis.

Case report

A 65 year old man was referred to our institution for a segmental collapse of the right upper lobe discovered on a routine chest radiograph (fig 1). Eliciting his history revealed that he had ingested mineral oil paraffin. Fibreoptic bronchoscopy did not show any macroscopic endo-