Recovery of *Mycobacterium elephantis* from Sputum of a Patient in Belgium

*Mycobacterium elephantis* was isolated from a human respiratory specimen in April 1999, demonstrating its presence in Europe. The biochemical reaction results, antimicrobial susceptibility pattern, and sequence data for this strain are all in agreement with those of *M. elephantis* strains isolated previously from other continents (2, 4).

A 79-year-old man from rural Belgium with watery diarrhea (blood and mucus absent) and palpitations was hospitalized. Empirical treatment with ciprofloxacin for an upper respiratory tract infection was noted in his recent medical history. A diagnosis of enteritis (no pathogen isolated) was made, and a cardiovascular evaluation demonstrated ventricular or extraventricular extrasystoles and mitral valve insufficiency.

A mycobacterium strain (S2257) was isolated from sputum and referred to our laboratory for identification and susceptibility testing.

Subculture of the strain was done on Löwenstein-Jensen and Ogawa media. Both media were incubated at 35°C in CO₂ atmosphere. S2257 took more than 3 days to grow and was nonchromogenic. Staining the culture with Auramin O confirmed the presence of acid-fast bacilli. A limited number of biochemical tests were performed: catalase activity (semiquantitative), production of urease, nitrate reduction, and Tween 80 hydrolysis (3). The results (all positive) suggested that this strain belonged to the *Mycobacterium triviale-nonchromogenicum-terræ* complex. Growth of the strain on Middlebrook 7H10 medium was the starting point for gas-liquid chromatography of cellular fatty acids (Sherlock Microbial Identification System [MIS]; MIDI, Inc., Newark, Del.). The fatty acid methyl ester profile obtained was compared with those in the MIS database and were similar to *Mycobacterium avium-intracellularare* (similarity coefficient, 0.406 to 0.655).

Susceptibility testing was done on Middlebrook 7H10 medium supplemented with isoniazide (0.2 and 1 μg/ml), streptomycin (2 μg/ml), ethambutol (5 and 10 μg/ml), rifampin (1 μg/ml), rifabutin (1 μg/ml), kanamycin (5 μg/ml), capreomycin (10 μg/ml), cycloserine (30 μg/ml), and clarithromycin (4 μg/ml). These plates were incubated in the dark in a humid CO₂ incubator at 35°C for 3 weeks. The antibiotic profile was unlike that known for *Mycobacterium avium-intracellularare*, since S2257 was susceptible to isoniazide (highest concentration), streptomycin, kanamycin, capreomycin, cycloserine, and clarithromycin.

Since Accuprobets (Gen-Probe) for the *M. avium-intracellularare* complex are not routinely used in our laboratory, a sequence analysis (EUROGENTEC, Seraing, Belgium) of part of the amplified 16S rRNA gene of S2257 was performed as described previously (1). The sequence was compared against those available from the National Center for Biotechnology Information database (www.ncbi.nlm.nih.gov/entrez), and a similarity index was determined using Gene Compar (Applied Maths, Sint-Martens-Latem, Belgium). There was a 99.8% similarity to *M. elephantis* (accession number AJ010747). Our identification was confirmed by Dr. E. C. Böttger (Institut für Medizinische Mikrobiologie, Hannover, Germany).

The patient had not experienced any contact with animals and specifically not with elephants from which the first strain of *M. elephantis* was isolated (2). However, there was a history of respiratory tract infection and enteritis. *M. elephantis* was isolated only once (but only one mycobacterium culture was performed).

We conclude that further studies are required into the origin, infectiveness, and clinical significance of *M. elephantis*. In general, clinicians should be aware of the clinical relevance of nontuberculous mycobacterial species, and laboratories should use more advanced methods, including molecular techniques for the identification of mycobacteria not readily identified by standard methods.

REFERENCES