

Pseudoepidemic from *Mycobacterium gordonae* due to a contaminated automatic bronchoscope washing machine

To the Editor:

Optical fiber bronchoscopes are increasingly used by pneumologists. These devices, which are mandatory for making a *Pneumocystis carinii* pneumonia diagnosis, allow for rapid and affordable microbiological and histological diagnoses.

The high throughput these instruments undergo requires, in order to avoid the cross-contamination of patients, continuous and accurate disinfection procedures, which usually consist of appropriate washing practices and the use of decontaminating machines. The omission of controls needed to validate these disinfection procedures may result in bronchoscope contamination, with the possibility of an outbreak of a pseudoepidemic or, at worst, the transmission among patients of life-threatening diseases.¹⁻⁵

Nontuberculous mycobacteria, frequent contaminants in water, are considered in the literature as the organisms most difficult to eradicate from invasive diagnostic devices.^{6,7}

We report here on the repeated isolation of *Mycobacterium gordonae* from outpatients undergoing bronchoscopy for the diagnosis of various pathologies.

Materials and Methods

In the first 10 months of year 2000, 267 patients underwent a bronchoscopy. The standard operating procedure dictated that, after each use, the bronchoscope be washed with a proteolytic detergent (Proteozim Plus 400; IMS, Pomezia, Roma, Italy), rinsed with tap water, dried, and disinfected with 2%

glutaraldehyde for 50 minutes using an automatic device (Disinfector 35100; Richard Wolf GmbH, Knittlingen, Germany) whose disinfecting solution was to be replaced bimonthly. At the end of each work session, the cycle was repeated for 3 hours. The rinsing was conducted automatically using filtered tap water, and the bronchoscope was then stored in a proper cabinet. The water filtering unit (Filterpatrone; Richard Wolf GmbH, Knittlingen, Germany) was sterilized via autoclave at the end of every session and replaced monthly.

Bronchial aspirates were used for microscopic (Gram's stain and auramine-rhodamine) and cultural investigations, both for ordinary bacteria and mycobacteria.

Results

Out of 267 bronchial aspirate mycobacterial cultures, 16 isolates of scotochromogenic acid-fast bacilli were grown. The isolates, identified at the regional mycobacteria reference center, belonged to the species *M gordonae*. This finding appeared anomalous because only 1 *M gordonae* sample was previously isolated from 1368 bronchial aspirates sent to the microbiology laboratory in 7 years.

Upon a thorough cultural mycobacterial review of all the fluids involved in the washing procedure, *M gordonae* was isolated from 2 samples of tap water feeding the washing machine and from the filtering unit, which was not effectively trapping the bacteria present in the water. A subsequent investigation revealed a failure in filter replacement and maintenance. A prompt restoration of the correct procedure resulted in no further isolation of *M gordonae*.

Discussion

The resolution of this case of *M gordonae* pseudoepidemic was facilitated by the common origin (the pneumological ward) of the bronchial aspirates from which *M gordonae* grew. Nevertheless, this necessitated nearly 3 months of work, and both the microbiology laboratory and the pneumologic units were financially and operationally taxed. Additionally,

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expensive cultures and identifications were conducted, and unnecessary antimycobacterial treatments were administered to patients, who were also distressed by the suspicion of having acquired pulmonary tuberculosis.

The strict enforcement of correct maintenance measures was sufficient to eliminate the problem.

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