

CLINICAL RELEVANCE OF NONTUBERCULOUS MYCOBACTERIA ISOLATED IN THE NETHERLANDS

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Purpose of the study: To evaluate the clinical relevance of isolation of *Mycobacterium malmoense*, *M. szulgai*, *M. simiae*, *M. xenopi*, *M. chelonae*, *M. abscessus* and *M. conspicuum* from clinical samples.

Methods: Nontuberculous mycobacteria (NTM) were identified by 16S rDNA gene sequencing, after ruling out membership of most common species using the InnoLipa v2 reverse line-blot. Results are compared with BLAST (National Center for Biotechnology Information, <http://www.ncbi.nlm.nih.gov>) and RIDOM (Ribosomal Differentiation of Medical Microorganisms; <http://rdna.ridom.de>) sequence databases.

We performed a retrospective file review of all patients in the Netherlands with isolates of the respective species between January 1999 and January 2006, using the diagnostic criteria of the American Thoracic Society to assess clinical relevance.

Results: In total, 247 patients were identified (52 *M. malmoense*, 21 *M. szulgai*, 28 *M. simiae*, 49 *M. xenopi*, 46 *M. chelonae*, 49 *M. abscessus* and 2 *M. conspicuum*). Clinical relevance differed significantly by species. *Mycobacterium malmoense* was most relevant with 75% of all patients meeting the ATS criteria, followed by *M. szulgai* (66%), *M. xenopi* (51%), *M. conspicuum* (50%), *M. abscessus* (41%), *M. chelonae* (28%) and *M. simiae* (21%).

A 69% majority of true infections are pulmonary infections, clinically resembling tuberculosis. Patients were mostly males, with an average age of 60 years and pre-existing lung disease. These lung diseases complicate the diagnosis of active NTM disease. Conversely, NTM complicate diagnosis and follow-up of tuberculosis, leading to unnecessary treatment.

Extrapulmonary infections were confined to systemically immunocompromised patients.

Conclusions: The clinical relevance of NTM differs by species. Clinical isolates of *M. malmoense* and *M. szulgai* represent true infections unless proven otherwise, whereas *M. chelonae* and *M. simiae* can in most cases be considered contaminants. Evaluation of clinical relevance of isolated NTM should be based on accurate species identification by the microbiologist and a detailed follow-up by the clinician.