REVIEW OF OUTBREAKS CAUSED BY TRADITIONAL AND NEWLY DESCRIBED RAPIDLY GROWING MYCOBACTERIA IN BRAZIL

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Purpose of the study: to investigate outbreaks of infections caused by rapidly growing mycobacteria (RGM) related to invasive procedures in Brazil.

Methods: Isolates obtained during outbreaks of RGM infections were identified using phenotypic methods, PCR-Restriction Enzyme Analysis, and sequencing. Strain typing was performed by RAPD, ERIC, and PFGE.

Results: Fifteen outbreaks of RGM infections after different medical and cosmetic procedures were detected in Brazil between 1998 and 2007. The number of outbreaks, the diversity of invasive procedures, and number of cases in each outbreak have increased exponentially in the last years. Isolates were identified as *M. fortuitum, M. abscessus, M. chelonae, M. porcinum, M. immunogenum,* and *M. massiliense*. Unique strains were implicated in eight out of 11 outbreaks that had their isolates analyzed by molecular typing techniques.

Conclusions: Outbreaks caused by RGM are emerging in Brazil and were associated to particular invasive procedures – ophthalmologic and plastic surgeries, invasive procedures that make use of laparoscopes and arthroscopes, implants and cosmetic interventions. One outbreak was caused by a single clone of a variant of *M. immunogenum* and two outbreaks were caused by *M. massiliense,* both recently described species. The use of molecular strain typing techniques added useful information for epidemiological analysis, and for identification of possible sources of infection and persistence of isolates in outbreak settings. The suspicion and prompt identification of these outbreaks is particularly important for rapid control, but physicians and hospital personnel as a rule are not aware of this type of infections.