Abstract

Mycobacteria strains belonging to the Mycobacterium tuberculosis complex were isolated from seals found in the South Atlantic. The animals were received in Mundo Marino installations and treated for Mycobacterium tuberculosis complex by conventional therapy of intensive care and enriched food supply; however, in all cases treatment failed. Necropsies of all animals revealed extensive lesions compatible with tuberculosis involving lungs, liver, spleen and lymphatic nodes. Classical biochemical methods as well as molecular techniques using the IS 6110 probes were performed for mycobacterial identification. Furthermore, the LCx M. tuberculosis assay (Abbott Laboratories) identified all strains as Mycobacterium tuberculosis complex members. The in vitro susceptibility pattern was examined in mycobacterial strains isolated from seven seals and in 3 reference strains - BCG, H37Rv (M. tuberculosis) and AN5 (Mycobacterium bovis) - to 4 medications - isoniazid, rifampin, streptomycin and ethambutol. Minimal inhibitory drug concentrations were determined by the Mycobacterial Growth Indicator Tube (BD Argentina) method and a microdilution and colorimetric assay using 3-(4-5 dimethyltiazol-2)-2,5 diphenyltetrazolium bromide. All the isolates and the reference strains BCG and AN5 were inhibited by MIC values similar to those of H37Rv with good agreement obtained by both techniques. These findings suggest that a therapeutic regimen aimed to seals diagnosed with tuberculosis play an important role in the prevention of tuberculosis transmission from infected animals to humans that are in routine contact with them.

Keywords
seals, tuberculosis, in vitro susceptibility testing