TITLE: NOSOCOMIAL INFECTIONS DUE TO MULTIDRUG-RESISTANT *Corynebacterium amycolatum* STRAINS IN MOUNTAINOUS REGION OF RIO DE JANEIRO STATE

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ABSTRACT:
Nowadays, virulence potential and characteristics of multidrug-resistant (MDR) *Corynebacterium amycolatum* should be a matter of concern in both imunnocompromised and immunocompetent patients. Further studies concerning nosocomial infections due to MDR and non-MDR *Corynebacterium amycolatum* strains remain necessary, especially in tropical and/or developing countries, including Brazil. The present study aimed to isolate and identify *C*. *amycolatum* strains recovered from 214 hospitalized infected patients from an urban area located in the mountainous region of Rio de Janeiro State, Brazil. Microorganisms were characterized by conventional phenotypic tests and identified by Matrix-Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry (MALDI-TOF MS). Antimicrobial susceptibility profiles were determined by the disk diffusion method and MDR profiles were defined when non-susceptibility to three or more classes of antimicrobial agents were verified. Additionally, due to occurrence of a high resistance to beta-lactams agents, imipenem-resistant clinical isolates were submitted to the phenotypic disk approximation test for detection of metallo-beta-lactamase (MBL) production. From a total of nine clinical isolates identified as *Corynebacterium* spp*.,* three strains were characterized as *C. amycolatum:* bronchoalveolar lavage (elderly/female), vaginal secretion (adult/female), surgical wound (elderly/male). All *C. amycolatum* nosocomial pathogens were verified to express heterogenic MDR profiles. Imipenem-resistant strains showed MBL-positive (n=2). In conclusion, this study highly emphasizes *C. amycolatum* as nosocomial pathogen in Brazil. Data demonstrated that medical surveillance programs should include control strategies in order to decrease potential risk factors of nosocomial infections due to *C. amycolatum.*

Keywords*:* *Corynebacterium amycolatum*; metallo-beta-lactamase; multidrug resistance; nosocomial infections

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