

Título: PHENOTYPIC AND MOLECULAR CHARACTERISTICS OF *Corynebacterium mycetoides* ISOLATED FROM HUMAN URINARY TRACT INFECTION

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Resumo:

Corynebacterium is one of largest and most relevant genera included among potentially pathogenic coryneform bacteria. Microorganisms of the coryneform group consist of strictly aerobic or facultative anaerobic Gram positive irregularly shaped rods (BGPIs) non-partially-acid-fast and asporogenous. *Corynebacterium* species may be members of the human skin and mucous membranes microbiota and are increasingly recognised as human pathogens, mostly of immunocompromised patients. Cases of septicemia, endocarditis, surgical wounds and catheter-related infections due to corynebacteria have been reported although these microorganisms are still frequently dismissed as contaminants. In this study, we report for the first time the pathogenic potential to the human urinary tract of *Corynebacterium mycetoides*, a specie last reported in literature in 1956 as the causative agent of Castellani's "tropicaloid" ulcer. The BGPI isolated from urine was grown as pure culture on sheep blood agar 5% at 37°C/48h presenting medium sized, shiny and yellowish colonies. Identification of *C. mycetoides* was investigated by conventional biochemical assays, Api-Coryne and Rapid CB Plus semi-automated tests in addition to genomic DNA sequencing of 16S and rpoB genes. Microorganisms were pyrazinamidase-negative and without fermentative properties for several carbohydrates tested. The sequence for 16S and ropB genes showed similarity 99.79% and 99.54%, respectively, for *C. mycetoides*. In contrast to the conventional biochemical assays an the semi-automated tests used analysis by MALDI-TOF was effective in identifying the sample at the species level. Antimicrobial susceptibility analysis by the disk diffusion method showed *C. mycetoides* strain resistant to erythromycin, clindamycin and nitrofurantoin. Preliminary studies demonstrated the adhesive properties to hydrophobic abiotic surfaces and biofilm formation on polyurethane catheter surfaces as virulence factors that may contribute to human colonization and infection by *C. mycetoides*.

Palavras-chaves: Castellani's "tropicaloid" ulcer; *Corynebacterium mycetoides*; Urinary tract infection.

Agência de Fomento: CNPq, CAPES, FAPERJ, SR-2 UERJ. *Bolsista CNPq-Brasil.