

**Title:** Monitoring and analysis of virulence factors of corinebactérias of medical importance isolated in a University Hospital in the metropolitan region of Rio de Janeiro city.

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**ABSTRACT:**

Healthcare-associated infections (HAI) have a great impact upon hospital mortality, duration of hospitalization, and costs. *Corynebacterium species* are ubiquitous skin commensals and are usually neglected to be discarded as to be contaminants. However, several reports have highlighted the importance of some species *Corynebacterium* the causes of several infections related to medical devices in patients admitted in Intensive care therapy, usually associated with serious diseases such as arthritis, endocarditis and sepsis, among others. These species are called corinebactérias of medical importance (CMI). Abilities such as the produce biofilm in different substrates, multiresistance (MDR) and tolerance to antimicrobials, seem to favor the implantation and persistence of this agent in hospital environments, besides corroborating the percussors of virulence. In this way the better understanding of the interactions between these percussors will contribute to the adequacy of efficient and direct measures for the control of these infection, so our objective will be the identification, monitoring of isolated MICs in a University hospital in the Metropolitan region of the city of Rio de Janeiro, as well as the detection of susceptibility and biofilm formation of the most important CIM incidents in the period from January 2012 to December 2018. During the seven years, one hundred and nine (n = 109) clinical samples were isolated and identified by Maldi-Tof. Our study showed that *Corynebacterium striatum* was the most isolated species in the study (37.61%), then *Corynebacterium pseudodiphtheriticum* (23.85%), *Corynebacterium amycolatum* (10.09%), *Corynebacterium propinquum* (9.17%), *Corynebacterium jeikeium* (8.26), *Corynebacterium aurimucosum* (4.59%) and others Corinebactérias (6.43%). *C. striatum*, the most persistent species presented MDR samples (85.37%), most of them being tracheal aspirates (65.85%) and catheters (14.63%). *C. striatum* presented quantitative ability to form biofilm in a polyurethane catheter in all samples chosen. *C. striatum* was an emerging hospital pathogen with multiple virulence factors, mainly biofilm production suggesting a spontaneous correlation with the medical devices present in the hospital environment. However, other species also presented worrying data. We alert to the correct diagnosis and adequate measures for the control and the CMI that can present themselves as opportunistic pathogens.

**Keywords:** *Corynebacterium*, virulence factors, multiresistance, biofilm and corinebactérias.

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