

Corynebacterium striatum is a Gram-positive bacillus, which is part of the human microbiota, however, has been related to nosocomial infections, especially in patients using invasive medical devices, but remains a species underestimated by clinicians and neglected in diagnostic laboratories. Some microorganisms such as *Escherichia coli*, *Burkholderia pseudomallei* and *Candida auris* have presented changes in their morphology to adapt to unfavorable environments, such as: extreme temperatures, exposure to chemical agents, absence or excess of essential nutrients for its biological cycle determining an important virulence potential to be present in different environments. Although several virulence factors are being linked to *Corynebacterium striatum*, there are few studies investigating specific characteristics that allow its persistence and dissemination in conditions unfavorable to its survival. This work aimed to evaluate the virulence of this microorganism in relation to the morphological plasticity induced by exposure to different concentrations of iron and glutaraldehyde 2% (GA), through the induction and / or reversion of this phenotype. For this reason, we evaluated the morphological changes in strains of *C. striatum* with different clonal profiles isolated during a nosocomial outbreak in University Hospital located in the metropolitan region of Rio de Janeiro city through biofilm images produced on a hydrophobic polystyrene substrate in the presence of different concentrations of iron and biocide GA. Were produced biofilm following methodology previously described, basically the bacterial solutions were added in 24-well plates with thermanox coverslips with or without addition of 400mM of 2,2'-dipyridyl, 365mM FeSO₄ and GA. Our results indicated that *C. striatum* was able to perform morphological changes, being able to adapt to unfavorable environments in all the treatments to which it was submitted, suggesting one more virulence factor in order to maintain the viability and to allow an eventual encounter with a host. Thus, health teams should be aware of the virulence factors of *C. striatum*, looking for effective strategies to eradicate this opportunistic pathogen.