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Place of rpoB-PCR-RFLP and MALDI-TOF in the identification of clinically relevant *C. striatum* strains in a Tunisian hospital

S. Alibi¹, A. Ferjani¹, M. Marzouk¹, O. Gaillot², R. Courcol², J. Boukadida³

¹Chu F. Hached, Microbiology laboratory UR12SP34, Sousse, Tunisia ; ²Lille, Biology and pathologie centre, Lille, France ; ³Chu F. Hached, Microbiology laboratory UR12SP34, Sousse, Tunisia

Objectives: *C. striatum* is frequently encountered in the routine clinical microbiology laboratory. It is a potentially pathogenic microorganism in specific circumstances with the ability to produce outbreaks of nosocomial infections. Identification of this specie by biochemical methods remains difficult and several misidentifications have been reported previously. The aim of this study was to investigate the application of rpoB- PCR-RFLP and MALDI-TOF for the speciation of *C. striatum* strains. **Methods:** The study was conducted on clinical *C. striatum* strains collected between 2007 and 2013 and identified by MALDI-TOF-MS (Bruker Daltonic, Wissembourg). Biochemical profiles were determined by API Coryne strips. For PCR-RFLP analysis, a 446-pb internal fragment of *rpoB* was amplified using primers C2700F and C3130R and digested by *MseI* enzyme. **Results:** Among 70 *C. striatum* strains identified by MALDI-TOF-MS, 38 (54. 28%) were designed to other *Corynebacterium* species by Api Coryne Strips: *C. macginleyi* (n=13), *Corynebacterium CDC group G* (n=13) and other species (n=12). The rpoB-PCR-RFLP patterns predicted by using *MseI* clearly differentiate *C. striatum*. All strains identified as *C. striatum* by MALDI-TOF-MS were also assigned to this species by PCR-RFLP; any misidentification using this method has been noted. **Conclusion:** Miniaturized phenotypical identification systems are not reliable enough in order to identify a majority of *C. striatum* clinical isolates. MALDI-TOF-MS is a rapid and reliable method. The rpoB-PCR-RFLP was successfully applied to identify *C. striatum* and it can be used for the reliable identification of this pathogen.