

MALDI-TOF ICMS: A PROTEOMIC METHOD FOR IDENTIFICATION OF CLINICAL *SPOROTHRIX* COMPLEX ISOLATES

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Sporotrichosis is a subcutaneous mycosis of worldwide distribution. However, Latin America, South Africa, India and Japan are areas of high endemicity. Recently, a combination of phenotypic and genotypic features suggested that *Sporothrix schenckii* should not be considered as a single taxon causing sporotrichosis as 3 new species, *S. brasiliensis*, *S. globosa* and *S. mexicana* have recently been described. *Sporothrix mexicana* was related with environmental samples and apparently restricted to Mexico. However, our Research Group has recently described the first case of human sporotrichosis caused by *S. mexicana* in Portugal [1]. An identification key for the *Sporothrix* complex species has now been proposed which includes macro- and micro-morphology and auxonogram analyses using raffinose and sucrose as carbon sources. Nevertheless, identification based on this methodology could be ambiguous due to phenotypic variability within these species [2]. In addition, conclusive species identification is reached only after partial calmodulin gene (CAL) sequence analysis. In order to show the potential of the Matrix-Assisted Laser Desorption/Ionisation Time-Of-Flight Intact Cell Mass Spectrometry (MALDI-TOF ICMS) technique on the identification of *Sporothrix* complex species the aim of this study was to optimise the MALDI-TOF ICMS methodology for the 4 available *Sporothrix* isolates related with human sporotrichosis. For that proposal the type strain *S. brasiliensis* IPEC16490 (CBS 120339) and the reference strains *S. globosa* IPEC27135, *S. schenckii* IPEC27722 and *S. mexicana* MUM11.02 were used. Also were compared this isolates in two morphologic phases. The analysis demonstrated that optimal spectra and statistical clustering were obtained when the microbial cells were analysed on the yeast phase. The present methodology is simple, reliable, and rapid making it an ideal routine identification system for clinical mycology laboratories and culture collections.

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