Poster (Painel)

1608-1 **Rapid and reliable identification of intact Candida clinical isolates using MALDI-TOF ICMS**

Autores: Reginaldo Gonçalves de Lima-neto (UFPE - Universidade Federal de Pernambuco / UFPE - Universidade Federal de Pernambuco) ; Danielle Patrícia Cerqueira Macêdo (UFPE - Universidade Federal de Pernambuco) ; Cledir Santos (UMINHO - Universidade do Minho) ; Nelson Lima (UMINHO - Universidade do Minho) ; Paula Sampaio (UMINHO - Universidade do Minho) ; Célia Pais (UMINHO - Universidade do Minho) ; Rejane Pereira Neves (UFPE - Universidade Federal de Pernambuco)

Resumo

The significant increase in the frequency of candidiasis wide world has promoted the study and development of fast and reliable techniques aimed at the replacement of traditional methods used for identification and typing of *Candida* clinical isolates. Matrix Assisted Laser Desorption/Ionisation Time-Of-Flight Intact Cell Mass Spectrometry (MALDI-TOF ICMS) has been applied as current method for *Candida* identification in clinical laboratories. This method is reported as suitable for routine identification in clinical laboratories and fast and reliable for identification of pathogenic yeasts. The main aim of this study was to compare MALDI-TOF ICMS performance with the classical phenotypic approach and molecular analyses to identify *Candida* species from clinical cases. Forty clinical *Candida* isolates preserved in URM Culture Collection for 1 to 52 years were identified by morphological and biochemical analysis as *Candida albicans* (20), *C. krusei* (05), *C. parapsilosis* (11) and *C. tropicalis* (04). These identifications were compared with the discriminative capability of the new phenotypic approaches using MALDI-TOF ICMS. MALDI-TOF ICMS data demonstrated 15% discordance when compared with morphological and biochemical analyses. The discordant isolates were analysed by ITS sequencing which corroborated the MALDI-TOF ICMS identifications. Five *Candida krusei* isolates were renamed *Issatchenkia orientalis* by MALDI-TOF ICMS SARAMIS™ database, which is their teleomorphic name. In conclusion MALDI-TOF ICMS represents a rapid and reliable method of identifying *Candida* and also presents clear benefits when compared with the performance of existing daily routine methods applied at health centres and hospitals. Research leading to these results received funding from the European Community's Seventh Framework Program (FP7, 2007-2013), Research Infrastructures Action, under grant agreement No. FP7-228310 (EMbaRC project). Thanks are also due to Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES, Brazil) for funding support.

Palavras-chave: Candida, Clinical Yeast, MALDI-TOF, Taxonomy