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Application of matrix-assisted laser desorption ionization time-of-flight mass spectrometry (MALDI- TOF MS) in rapid identification of clinical isolates

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Introduction: The Microflex LT Biotyper is a MALDI-TOF MS system for rapid and reliable identification of microbial isolates especially in monitoring hospital infections.

Aim: To evaluate the Microflex LT Biotyper system for bacterial and fungal identification.

Methods & Materials: A total of 64 bacterial and 19 fungal isolates from clinical specimens were analyzed, with suitable control strains. The isolates were processed and spotted on the target plate. The spectra were recorded in the linear mode and subsequently analyzed using microflex MALDI Biotyper software and database.

Results: By MALDI-TOF MS, the suspected mycobacterial cultures did not yield adequate spectra. Later, by increasing the biomass good spectra were obtained. However, the spectra of these clinical isolates did not match with that of the current database. Bacterial, mycobacterial and fungal control strains were identified by the system.

Conclusion: Microflex LT MALDI- TOF Biotyper system can be considered to be a rapid, reliable and cost effective method of identification of clinical isolates.

Biography

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