

Invasive diseases due to *Candida* sp., especially by *C. albicans*, represent very severe complication in immunocompromised patients. More over the presence of antifungal resistance leads to delay of targeted antifungal therapy and increases morbidity and mortality in this group of patients. Therefore the aim was to introduce a rapid method of caspofungin resistance detection by the mass spectrometry MALDITOF. The tests were performed by the use of reference strain *C. albicans* CCM8261 and caspofungin resistant strain *C. albicans* M30. Different settings of mass spectrometer were used for the measuring. The obtained spectra were evaluated by correlation and cluster analysis (dendrogram).

By cluster analysis it was possible to differentiate the susceptible and the resistant strain.

During the analysis we have found, that mass spectrometer settings are unique for each machine and we cannot use the published data. We did not succeed to determine the similarity by correlation analysis. The quality of obtained spectra was quite poor, probably because of non-suitable culture medium used in the test. The cluster analysis confirmed the possibility of resistance detection by mass spectrometry; nevertheless more testing profiting from current experience is needed for introduction of this test in routine.