ABSTRACT

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Title of diploma thesis: Yeasts isolated from the blood of patients hospitalized in University Hospital Hradec Králové

Field of study: Specialist in laboratory methods

Background: The aim of the work was to obtain informations about the incidence of yeasts in the blood of patients University Hospital Hradec Králové in period of 2005 to 2013, with regard to species spectrum, susceptibility to antifungals, age, sex, diagnosis and clinic, where these patients were hospitalized.

Method: Collection, processing and evaluation of microbiological data of the records of laboratory information system of mycological laboratory of the Department of Clinical Microbiology University Hospital Hradec Králové from 2005 to 2013.

Results: 71 patients were evaluated with 81 yeast strains isolated from the blood. Of the patients 39 (54.9 %) were males and 32 (45.1 %) females. The subgroup at the highest risk of fungemia was age category 60 to 79 years with 32 (45.1 %) findings. The most common diseases in the context of isolation yeast from the blood were diseases of the digestive system (23.6 %) and malignacies (20.8 %). Majority (78.9 %) of patients were hospitalized in the intensive care unit (ICU). *Candida albicans* (50.7 %) followed by *C. glabrata* (12.7 %) and *C. parapsilosis* (8.5 %) predominanted among the blood isolates. The data obtained about the minimal inhibitory concentration by these three species suggested relatively good susceptibility to fluconazole. The representatives of genus *Cryptococcus*, *Geotrichum* and *Trichosporon* were isolated from the blood in 8 cases (11.2%).

Conclusion: *Candida* species were the most frequently isolated yeasts from the blood. The majority of patients with fungemia was in higher age or immunocompromised patients. Their treatment should be based on the assessment of *in vitro* antifungal susceptibility.

Keywords: blood, yeasts, *Candida*, candidemia, antifungal drugs