

The distribution of fungal pathogens on newly diagnosed Neutropenic Fever Attacks and antifungal treatment

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Background: Febrile neutropenia (FEN) is a life-threatening complication that is common in patients with hematological malignancies. It is defined as a single oral body temperature over 38.3°C or temperature over 38.0°C lasting at least one hour, in cancer patients with an absolute neutrophil count below 500/mm³ or in those with an absolute neutrophil count between 500 and 1000/mm³ with a predicted further decrease within 24-48 hours in the absence of an external cause such as blood products or cytotoxic therapy. Invasive fungal infections (IFI) are serious cases of mortality in neutropenic patients. It is difficult to diagnose IFIs in neutropenic patients and this causes delay in diagnosis which has detrimental effects on prognosis. In order to treat these infections timely and early are preferred instead of targeted antifungal therapy. The aim of this retrospective study is to evaluate efficiency of antifungal treatment and fungal pathogens in patients with newly diagnosed febrile neutropenia.

Methods: Between January 2005 and March 2012, FEN of 61 newly diagnosed febrile neutropenic patients were retrospectively analyzed in Manisa Celal Bayar University, Department of Hematology. Patients who were ex within first five days of hospitalization were excluded.

Results: 31 (51%) patients were male and the mean age was 46.7±15.41 years, 30 (49%) patients were female and the median age was 47.0±15.41 years. The distribution of disease is AML, ALL, lymphoma, MDS, and other hematologic malignancies and their numbers and ratios were 39 (64%), 9 (15%), 6 (10%), 2 (3%), 5 (8%), respectively. Sixty one attacks were assessed. 40 patients were received antifungal agents. 21 patients was not needed any antifungal treatment. The average duration of antifungal treatment was 22.6±1.1 days. Thirteen fungal pathogens were isolated microbiological and /or histopathologically in 13 patients. *Candida* was found in 8 patients (4 patients; *Candida Albicans*, 2 patients; *Candida Tropicalis*, 1 patient; *Candida Glabrata* and 1 patient; *Candida Krusei*). *Aspergillus* was isolated in two patients and yeast species were found in 3 patients. After the isolation of fungal pathogens antifungal treatment were given to the 13 patients (6 patients; liposomal amphotericin, 3 patients; caspofungin, 3 patients; vorikonazol and 1 patient; flukonazol).

Conclusions: Within the scope of our study we could conclude that early diagnosis of fungal pathogens in FEN is important due to early treatment of IFI. Using antifungal agents after the correct isolation brings effective antifungal treatment so we could decrease mortality in FEN.

Key words: Fungal pathogens, antifungal therapy.