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Candidaemia risk factors in patients followed up in an oncology hospital

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Objective: *Candida* spp cause bloodstream infections which has a growing importance among nosocomial infections. These infections are a significant cause of morbidity and mortality. The purpose of this study was to evaluate the epidemiological characteristics, risk factors, antifungal susceptibility and prognosis of patients followed with candidemia in Dr. Abdurrahman Yurtaslan Ankara Oncology Training and Research Hospital.

Materials and Methods: Between 1st January 2012 and 1st March 2016, data of patients with candidemia were recorded into a form, cases admitted at the same period and had no candidemia were taken as a control group. Candidemia cases and control groups were compared in terms of epidemiological characteristics and potential risk factors. SPSS 16.0 software was used for statistical analysis "Backward Conditional" was used in logistic regression analysis.

Findings: In 60 patients with candidemia diagnosis, mean age was 57.25 ± 18.250 , 37 (61.7%) males and 23 (38.3%) females were identified. 26 patients (43.3%) in the intensive care unit (ICU) and 34 (56.7%) patients in other services were followed up. In the control group of 60 patients, mean age was 58.620 ± 16.587 and there were 35 (58.3%) males and 25 (41.7%) females 21 (35%) patients were in ICU and, 39 (65%) patients were in other services were followed up. Of 60 patients with candidemia, 33.9% solid organ malignancy, 30.5% gastrointestinal tumors, 22% hematologic malignancy, 5.1%

cerebrovascular events, 3.4% gastrointestinal pathology and %5,1 other underlying diseases. In cases with candidemia diagnosis, median length of stay was found to be as 21 days (1-165) in ICU, while in the control group median length of stay was found to be as 13 days (2-31). Duration of neutropenia was established to be (average day \pm SD) 18.14 ± 14.660 days in patients with candidemia diagnosis, while it was (mean days \pm SD) 13.88 ± 8.202 days in the control group. The most common risk factors were urinary catheter (96.7%) use, a broad-spectrum antibiotic use (91.7%), central venous catheters (86.7%) use, intubation duration (53.3%) and totally parenteral nutrition (TPN) (51%, 7) for the development of candidemia. TPN, using imipenem, meropenem and piperacillin-tazobactam were determined as the most important risk factors in multivariate analysis. The most frequently isolated species were *C. albicans* (48.3%), *C. glabrata* (13.3%), *C. parapsilosis* (10.0%), *C. krusei* (8.3%), *C. tropicalis* (8.3%), *Candida* spp. (5%), *C. lipolytica* (1.7%) and *C. famota* (1.7%) in sixty patients with candidemia. 38 (63.3%) of the patients with candidemia died.

Results: In this study, the most common risk factors for the development of candida bloodstream infections were urinary catheter use, a broad-spectrum antibiotic use and totally parenteral nutrition. The most frequently isolated species were *Candida albicans*, non-albicans species were also found to be high overall. Increasing resistance to amphotericin-B was observed in *Candida albicans*.