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Abstract (poster session)

**A prospective, multicentre, cohort study of candidaemia in hospitalised adult patients with haematological malignancies**

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Background: Invasive candidiasis is a life-threatening infection in patients with hematological malignancies. However, studies of risk factors for candidemia are derived either from non-hematology patients or from single-center, retrospective reviews of hematology patients. The objective of our prospective, multicenter study was to determine incidence, microbiologic characteristics, risk factors, and clinical outcome of candidemia among hospitalized adult patients with hematological malignancies. Methods: We conducted a population-based, prospective, multicenter, cohort study of candidemia patients  $\leq 18$  years admitted to hematology and/or HSCT units of nine tertiary care Greek hospitals from January 2009 through February 2012. Eighty control patients were selected by use of unit-specific patient admission databases. Stepwise logistic regression was used to identify independent predictors of 28-day mortality. Results: Candidemia was detected in 40 of 27,864 patients with hematological malignancies vs. 967 of 1,158,018 non-hematology patients for an incidence of 1.4 cases/1000 admissions vs. 0.83/1000 respectively ( $P < 0.001$ ). Candidemia was caused predominantly (35/40, 87.5%) by non-albicans *Candida* species, particularly *C. parapsilosis* (20/40, 50%). In vitro resistance to at least one antifungal agent was observed in 60% of *Candida* isolates. Twenty-one patients (52.5%) developed breakthrough candidemia, while receiving antifungal agents. Of the 40 *Candida* isolates tested, 24 (60%) were resistant to at least one antifungal agent. Crude mortality at day-28 was greater in those with candidemia versus control cases (18/40 (45%) vs. 9/80 (11%) ( $P < 0.001$ )). A high APACHE II score ( $P = 0.014$ ; OR, 0.28 [95% CI, 0.06, 0.50]) was an independent risk factor for 28-day mortality among case patients with candidemia, while neutrophil recovery was associated independently with favorable outcome ( $P = 0.004$ ; OR, -3.25 [95% CI, -5.74, -1.04]). Central venous catheters, hypogammaglobulinemia, and a high APACHE II score were independent risk factors by multivariate analysis for the development of candidemia. Conclusions: Despite antifungal prophylaxis, candidemia is a relatively frequent infection associated with high mortality caused by non-albicans *Candida* spp., especially *C. parapsilosis*. Central venous catheters and hypogammaglobulinemia are independent risk factors of mortality that provide potential targets for improving outcome.