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Invasive candidiasis

Peripherally inserted central catheter (PICC) as a predominant risk factor for candidaemia in Italian internal medicine department

E. Sozio¹, C. Tascini¹, G. Tintori¹, A. Ripoli², F. Sbrana², E. Rosselli Del Turco¹, F. Carmassi¹, F. Menichetti¹

¹Medicina d'Urgenza Universitaria- Azienda Ospedaliera Universitaria Pisana, Pisa, Italy

²Fondazione Toscana Gabriele Monasterio, Pisa, Italy

Objectives: Candida bloodstream infections are important cause of mortality in health care settings. Studies on incidence of candidemia in medical wards are lacking. This study was performed to evaluate incidence and risk factors of candidemia in an Italian hospital, comparing Internal Medicine departments versus Intensive Care Units (ICUs).

Methods: Patients with at least one positive blood culture for *Candida* spp, were enrolled during the period January 2012-December 2013. Among patients admitted in Internal Medicine wards and ICUs, we analysed the underlying patient characteristics, survival and risk factors such as use of wide-spectrum antibiotics, corticosteroids, presence of Central Venous Catheter (CVC) or PICC, total parenteral or peripheral nutrition, Early Onset Candidemia (EOC, less than 10 days from admission), Very-EOC (VEOC, less than 2 days from admission). Among Internal Medicine we also analysed the overall results and the results for General Medicine Units (separating it from Specialized Medicine Units such as Neurology, Gastroenterology, Pneumology, Infectious diseases Units and so on).

Results: Epidemiology results of two years study (2012-2013) were described in Table 1.

In Internal Medicine wards variables showed statistically significant were: age, female sex, length of hospital stay, a higher frequency of EOC and VEOC, admission directly from home, the presence of PICC.

Conclusion: In Italy the majority of patients admitted to General Medicine units are old and frail. In General Medicine incidence of candidemia was even higher than in ICU when calculated per 10.000 days of admission.

PICC is an important risk factor. Because 42% of candidemia were VEOC, with admission directly from home, we may postulate that candidemia are mostly generated at home by improper use of PICC.

Table 1: Incidence of Candidemia during the period January 2012-December 2013

Hospital Ward	N. admission	N. episodes	Rate candidemia/1000 admission	Rate candidemia/10000 days of hospitalization
Global	100896	211	2,09	3,44
Surgery	51859	53	1,02	2,59
ICUs	8433	47	5,57	9,35
Internal Medicine(both General Medicine and Specialized Medicine)	38876	98	2,52	3,98
General Medicine(separately from Specialized Medicine)	15167	78	5,14	10,2