

P1252

Paper Poster Session VI

Invasive candidiasis

Epidemiology and predictive factors of mortality in patients with candidaemia: a multicentre Italian study

M. Giannella¹, L. Scudeller², F. De Rosa³, M. Bassetti⁴, M. Tumbarello⁵, V. Del Bono⁶, S. Tedeschi¹, P. Viale¹

¹Sant'Orsola Malpighi University Hospital, Bologna, Italy

²Clinical Epidemiology Unit- Scientific Direction, IRCCS Policlinic San Matteo Foundation, Pavia, Italy

³Clinica delle Malattie Infettive- Università degli Studi di Torino, Torino, Italy

⁴Clinica Malattie Infettive- Azienda Ospedaliero Universitaria Santa Maria della Misericordia, Udine, Italy

⁵Clinica della Malattie Infettive- Policlinico Gemelli, Università Cattolica del Sacro Cuore, Roma, Italy

⁶Clinica di Malattie Infettive- Università di Genova, Azienda Ospedaliera San Martino, Genova, Italy

Objectives: To describe epidemiology and identify predictors of death in a large cohort of patients with candidemia.

Methods: Retrospective cohort study of all patients with candidemia hospitalized at 5 Italian teaching hospitals (Bologna, Genova, Rome, Turin, Udine) over 2-year period (2009-2011). The laboratories of microbiology were asked to report all patients with at least one blood culture positive for *Candida* spp. The patient's clinical charts were reviewed and data were collected in a standardized electronic case report form. Only the first episode per patient was included. Timing to antifungal administration was the interval between incident blood culture and implementation of therapy. Poisson models with clustering for clinical centre (to take into account between-centre impact on outcome) were used to assess factors associated to in-hospital mortality.

Results: 699 patients with candidemia were included: mean age was 66.6 years (SD \pm 16.2), 40% were females. The number of patients per centre ranged from 98 to 197. Patients were hospitalized in a medical, surgical, intensive care and haematological unit in 48.3%, 29.6%, 19.3% and 2.7% of cases, respectively. Indwelling central venous catheter (CVC) was present in 42.3% of patients. The median time from hospital admission to the first positive blood culture was 19 days (IQR 8-34). Distribution of *Candida* spp. was as follows: *C. albicans* 65%, *C. parapsilosis* 19.5%, *C. tropicalis* 7% and *C. glabrata* 5.4%. On the day of candidemia, 17.8% and 11.5% of patients presented criteria of severe sepsis and septic shock, respectively. Antifungal therapy was administered to 81.4% of patients. Initial treatment included an azole (98% fluconazole), an echinocandin or liposomal amphotericin-B in 58.2%, 20.5% and 2.7% of patients, respectively. The time to therapy was <24 h, 24-48 h and >48 h in 44.8%, 14.4% and 40.8% of cases, respectively. In 76.3% of episodes a concomitant antibiotic treatment was administered. In-hospital mortality was 42.3%, ranging from 24.6% in surgical wards to 36.8% in haematological units, 47.9% in medical wards, and 56.3% in intensive care units. At multivariate analysis, factors independently associated to death were: age (IRR 1.02, 95%CI 1.01-1.02, p <0.001), prior antibiotic exposure during the current hospitalization (IRR 1.85, 95%CI 1.42-2.43, p <0.001), severe sepsis or septic shock (IRR 3.26, 95%CI 2.16-4.93, p <0.001), no CVC removal (IRR 2.48, 95%CI 1.79-3.43, p <0.001), no antifungal administration (IRR 1.82, 95%CI 1.59-2.08, p <0.001), and initiation of antifungal therapy >48 h of drawing blood cultures (IRR 1.29, 95%CI 1.02-1.63, p =0.03).

Conclusions: These data remark the need for a higher clinical awareness and a more standardized therapeutic approach toward candidemia. Any bundle for the management should be based on the evidence that candidemia represents an infectious complication of prolonged hospital stay and on the modifiable risk factors for poor outcome.