

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

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Objectives

- ❖ To describe the epidemiology of candidemia in a large cohort of hospitalized adult patients.
- ❖ To identify risk factors for mortality, in particular to investigate the impact of initial therapy.

Methods

- ❖ **Design:** retrospective multicenter cohort study, over 2 year-period (2009-2011)
- ❖ **Population:** all adult patients with ≥ 1 blood culture positive for *Candida* spp.. Only the first episode per patient was included.
- ❖ **Setting:** 5 Italian teaching hospitals (Bologna, Genova, Rome, Turin, Udine)
- ❖ **Definitions:** time to antifungal therapy was the interval between incident blood culture and implementation of treatment.
- ❖ **Statistical analysis:** 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 66.6 years (SD ± 16.2), 40% females.
- ❖ The median time from hospital admission to the first positive blood culture was 19 (IQR 8-34) days.
- ❖ On the day of candidemia, 29.3% of patients presented with severe sepsis/septic shock, and 42.3% carried a CVC.
- ❖ Data on therapeutic management are shown in Table 1.
- ❖ Overall in-hospital mortality was 42.3%, mortality rates according to the hospital settings are shown in Figure 1.
- ❖ Multivariate analysis of risk factors for in-hospital mortality adjusted for age, sepsis grading, time to therapy and initial administered drug is shown in Table 2.

Table 1: Therapeutic management

	N=699 (%)
Antifungal prophylaxis ongoing	81 (11.6)
Any antifungal administered for candidemia	569 (81.4)
CVC removal	283/296 (95.6)
Time to therapy	
<24 h	255 (44.8)
24-48 h	82 (14.4)
>48 h	232 (40.8)
Initial administered drug	
Azole (98% fluconazole)	331 (58.2)
Echinocandin	116 (20.5)
Liposomal amphotericin-B	15 (2.7)

Figure 1: In-hospital mortality rates according with the admission wards

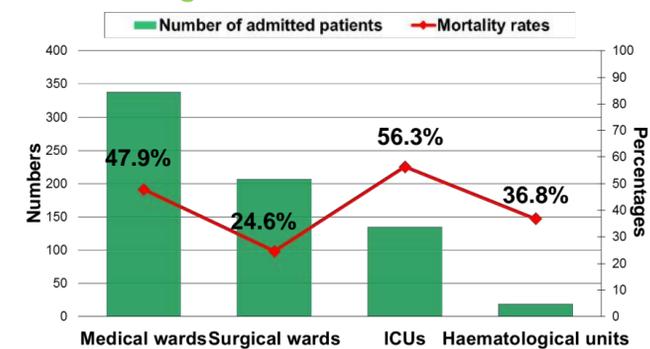


Figure 2: Distribution of *Candida* spp.

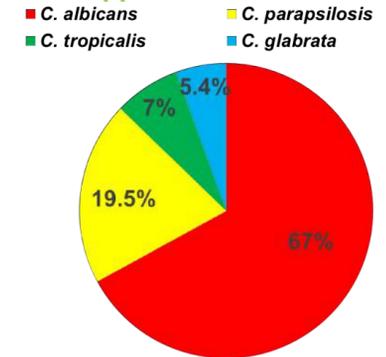


Table 2: Independent risk factors for in-hospital mortality

	IRR (95% CI)	P
Age	1.02 (1.01-1.02)	<0.001
Prior antibiotic exposure during the current hospitalization	1.85 (1.42-2.43)	<0.001
Severe sepsis or septic shock	3.26 (2.16-4.93)	<0.001
No CVC removal	2.48 (1.79-3.43)	<0.001
No antifungal administration	1.82 (1.59-2.08)	<0.001
Initiation of antifungal therapy >48 h of drawing blood cultures	1.29 (1.02-1.63)	0.03

Conclusions

- ❖ These data remark the need of an increase in the suspicion and of a most standardized therapeutic approach toward candidemia.