

Secular trends in fungaemia in a large teaching hospital over a 26-year period

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Objectives: Data on bloodstream infections caused by yeasts (YBSI) are usually restricted to short periods, specific clinical backgrounds, and specific pathogens or they are simply outdated. The high mortality of YBSI and the impact of efficacious empirical therapy make microbiological surveillance of invasive fungal infections essential. We evaluated the workload, incidence and etiology of YBSI in a general hospital over a 26-year period (1985-2010). **Method:** We prospectively analyzed the laboratory workload and trends in incidence per 1000 admissions of different YBSI in a general 1750-bed hospital. All yeasts isolated in blood from the same patient within 1 week were considered a single episode. **Results:** We recorded 1205 episodes of significant YBSI in 1050 patients (1129 *Candida* spp. and 78 other yeasts; 3.44% of all BSI). The species involved were 534 *Candida albicans*, 364 *Candida parapsilosis*, 101 *Candida glabrata*, 83 *Candida tropicalis*, 18 *Candida krusei*, 16 *Candida guilliermondii*, 8 *Candida dubliniensis*, 6 *Candida lusitanae*, 2 *Candida kefyr*, and 15 *Candida* spp. The other yeasts were 40 episodes of *Cryptococcus neoformans*, 14 *Saccharomyces cerevisiae*, 10 *Trichosporon* spp., 6 *Blastoschizomyces capitatus*, 6 *Rhodotorula* spp. and 2 *Hansenula anomala*. The departments in which the yeasts were isolated were adult medical (37.9%), adult intensive care unit (22.7%), adult surgical (15.5%), and pediatrics (23.9%). Incidence increased from 0.20 episodes/1000 admissions in 1985 to 1.51 episodes/1000 admissions in 2010, ie, an annual increase of 0.07 episodes/1000 admissions (95% CI, 0.05-0.09; $p < .0001$). The global incidence/1000 admissions and the annual increase in different yeast species are summarized in Table 1. **Conclusions:** The long-term, unbiased perspective of a large teaching hospital shows a significant increase in the incidence of fungaemia, mainly that caused by *C. albicans*, *C. parapsilosis*, *C. glabrata* and *C. tropicalis*.

Microorganism	N. of episodes	Annual average (per 1,000 admissions)	Annual increase (CI95%)	p
Yeasts	1,205	46.35 (0.88)	0.069 (0.05-0.09)	<0.0001
<i>Candida</i>	1,129	43.42 (0.82)	0.071 (0.05-0.09)	<0.0001
<i>C. albicans</i>	534	20.54 (0.39)	0.038 (0.02-0.05)	<0.0001
<i>C. parapsilosis</i>	364	14.00 (0.27)	0.019 (0.01-0.03)	0.002
<i>C. glabrata</i>	101	3.88 (0.07)	0.009 (0.00-0.01)	0.001
<i>C. tropicales</i>	83	3.19 (0.06)	0.004 (0.00-0.01)	0.043
<i>C. krusei</i>	18	0.69 (0.01)	-	0.402
Other yeasts	78	3.00 (0.06)	-	0.847