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Background

We assessed the value of *Candida albicans* germ tube antibodies (CAGTA) and (1, 3)-B-D-glucan (BG) in the diagnosis of *Candida* spp. infection in ICU patients.

Methods

Over a 2-year period (2011-2012), a prospective study was conducted in a cohort of non-selected, non-neutropenic, adult critically ill patients admitted to the ICU for at least 7 days and followed for 4 weeks. Demographics data, type of patients, APACHE II and SOFA (at ICU admission), underlying diseases, comorbidities, risk factors, antifungal treatment, and outcomes were collected. Clinical status, APACHE II, SOFA, *Candida* score, *Candida* colonization cultures (rectal swabs, tracheal, pharyngeal or gastric aspirates, and urine), and serum BG (Fungitell®) and CAGTA (Vircell®) were measured twice a week. Cut-off points for positivity were 80 pg/mL for BG and 1/160 titer for CAGTA. Patients were divided into: a) proven invasive candidiasis (IC) (candidemia and *Candida* peritonitis were analyzed separately), b) *Candida* colonization (CC), and c) neither colonized nor infected (NCNI). Maximum values recorded for BG and CAGTA after or before the episode of IC were included in the analysis. When an episode of IC did not develop, the highest value of all observed measurements was used. In each of these groups, categorical variables were summarized as frequencies and percentages and numerical as means and standard deviations (SD) or medians and interquartile ranges (IQR) according the assumptions of normality occurred or not. The percentages were compared using the chi-square test, the means by the F-test and the medians by the Kruskal-Wallis test. The data analysis was carried out using the R-package.

Results

A total of 112 patients were included and 437 determinations were performed. There were 32 (28.6%) patients in the NCNI group, 65 (58.0%) in the CC, and 15 (13.3%) in the IC (10 candidemias, 5 peritonitis).

	NCNI	Colonized	Candidemia	Peritonitis	<i>P</i>
	(n = 32)	(n = 65)	(n = 10)	(n =5)	value
Age, years, mean (SD)	62 (±17)	61 (±14)	68 (±10)	63 (±12)	0.655
BG, pg/mL, median (IQR)	90 (33;216)	100 (31;420)	161 (41;450)	50 (31;80)	0.632
CAGTA positives, n (%)	8 (24.9)	30 (46.2)	3 (30.0)	1 (20.0)	0.601

NCNI: neither colonized nor infected, BG: B-D- glucan, IQR: interquartile range (25th-75th percentile), CAGTA: *Candida albicans* germ tube antibodies.

Conclusions

In this group of patients the BG in the candidemias showed a non-significant increase in relation to the rest of the groups analyzed. The CAGTA did not show usefulness.

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