

EPIDEMIOLOGY AND CLINICAL REPORTING OF CANDIDAEMIA IN BELGIUM: A NATIONAL PROSPECTIVE STUDY (TANSIR TRIAL)



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Results

341 isolates were retrieved from 325 patients (53.2% male, median age 66 years, range 1-94 years).

Overall resistance to fluconazole was 6.5%, ranging from 3.5% in *C. albicans*, to 28.6% (4/14 isolates) in *C. tropicalis*. These four *C. tropicalis* isolates showed cross resistance to voriconazole and posaconazole. Overall resistance to the echinocandins was low ranging from 0.3% to anidulafungin (1 *C. glabrata*) and 1.3% to micafungin and caspofungin (3 *C. albicans* and 1 *C. glabrata*). See Table 2 and Figure 4.

Objectives

The aim of this multicenter study was to gather epidemiological data on candidaemia in the Belgian population. Another goal was to determine the time in real life setting for reporting to the treating physicians of the species involved and its antifungal susceptibility.

Methods

Prospective study in 29 Belgian hospitals. From March 1st, 2013 till February 28, 2014 the first *Candida* isolate from each episode of candidaemia was included. Identification and susceptibility testing were performed according to local procedures and isolates were sent to the National Reference Lab with a completed case report form. Species identification was checked by MALDI-TOF mass spectrometry (MS) and ITS sequencing in case no reliable identification was obtained by MS. Antifungal susceptibility testing and interpretation was performed according to EUCAST guidelines. The total number of patient admissions and hospitalization days during the study period was retrieved from each hospital.

Table 1 Mean incidence rate of candidemia in the participating Belgian hospitals

/ 1,000 admissions (range)	/ 10,000 patient days (range)
0,42 (0,07 to 1,44)	0,60 (0,11 to 2,03)

Figure 2 Ward Distribution (%) of the 325 patients

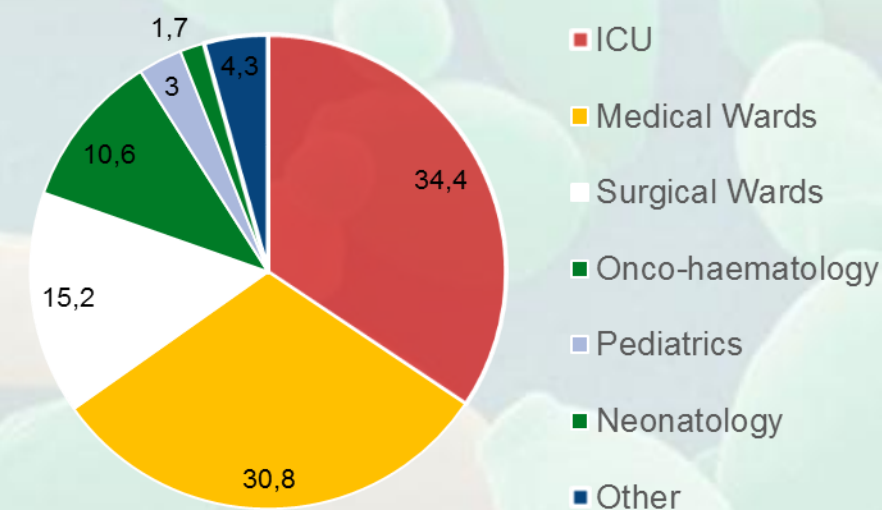


Table 2 Number of resistant *Candida* species (%)

	<i>C. albicans</i> N=173	<i>C. glabrata</i> N=93	<i>C. parapsilosis</i> N=34	<i>C. tropicalis</i> N=14	Total
Ampho B	0	0	0	0	0
Fluconazole	3.5	8.6	5.9	28.6	6.5
Posaconazole	3.4	/	2.8	28.6	5.6
Voriconazole	3.4	/	5.6	28.6	5.4
Anidulafungin	0	1.1	0	0	0.3
Micafungin	1.7	1.1	0	/	1.3
Caspofungin	1.7	1.1	0	/	1.3

Figure 1 Local identification methods per hospital (%)

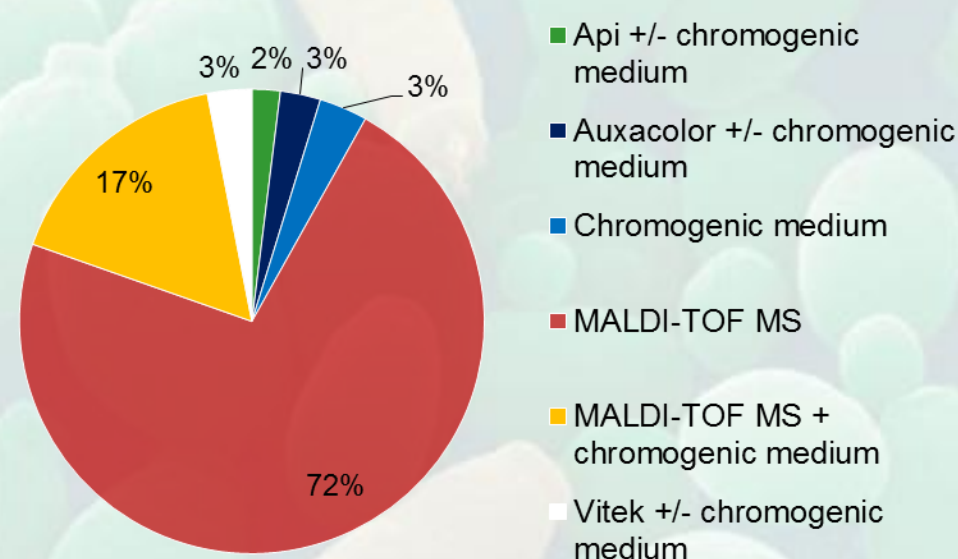


Figure 3 Species Distribution (%) of the 341 *Candida* isolates

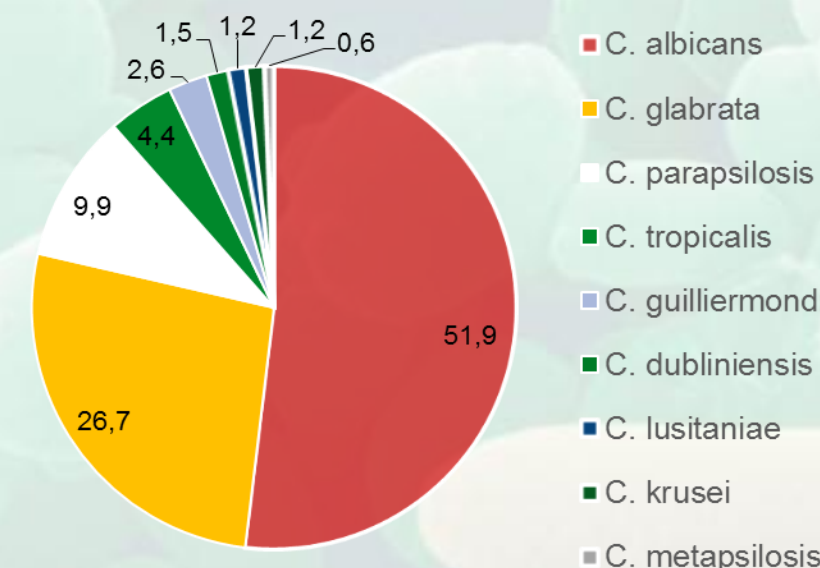
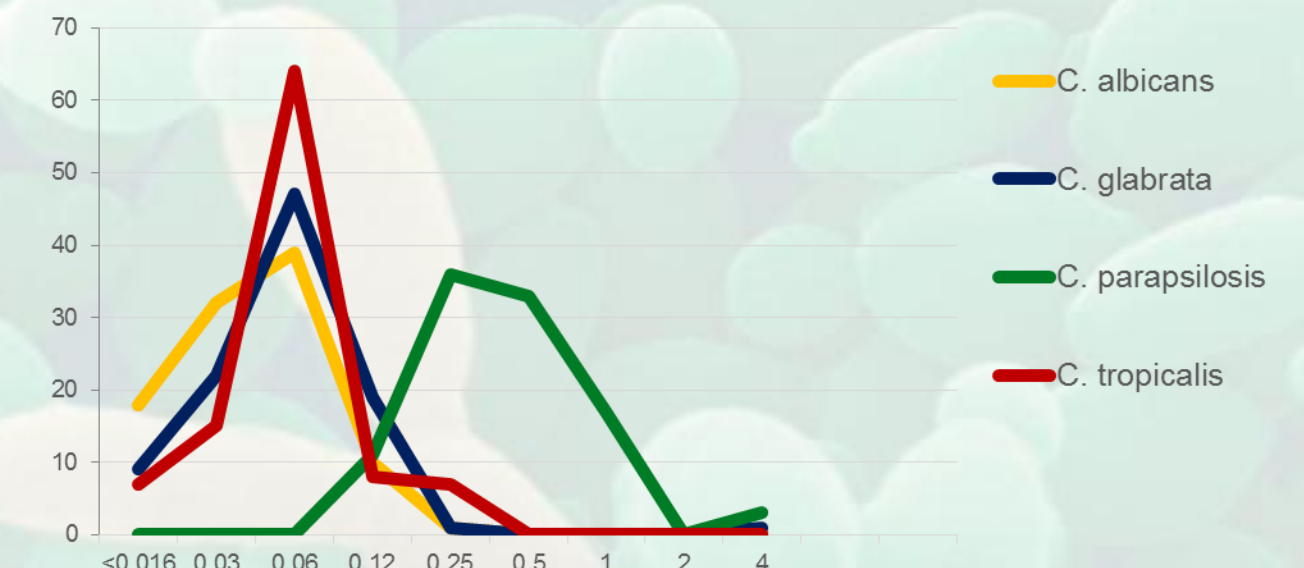


Figure 4 MIC distribution of caspofungin (%)



Conclusions

A large variation in the incidence of candidaemia among Belgian hospitals was observed. Resistance to azole drugs remained low but emerging resistance to these drugs among *C. tropicalis* was noted. Resistance to echinocandins remains rare in Belgian *Candida* isolates. These data will be further analyzed in order to evaluate the influence of the identification and susceptibility testing method on the time to report results to the treating physicians.

Figure 5 Median times between blood sampling and positive blood culture (standard deviation (STD) of 29h53min), and positive blood culture and reporting identification/antifungal susceptibility (STD of 17h06min and 88h24min respectively)

