EP0125

How frequent are infrequent *Candida* species causing candidemia? Proportion of cases, antifungal susceptibility, and biofilm formation

Laura Judith Marcos-Zambrano [1,2], Pilar Escribano [1,2,3], Carlos Sánchez-Carrillo [1,2,3], Patricia Muñoz [1,2,3,4], Emilio Bouza [1,2,3,4], Jesús Guinea [1,2,3,4]

[1] Clinical Microbiology and Infectious Diseases, Hospital General Universitario Gregorio Marañón, Madrid, Spain. [2] Instituto de Investigación Sanitaria Gregorio Marañón, Madrid, Spain. [3] CIBER Enfermedades Respiratorias-CIBERES (CB06/06/0058), Madrid, Spain. [4] Medicine Department, Faculty of Medicine, Universidad Complutense de Madrid

INTRODUCTION AND PURPOSE

Candidemia due to uncommon *Candida* species (non-*C. albicans*, non-*C. parapsilosis* complex, non-*C. glabrata* complex, non-*C. tropicalis*, and non-*C. krusei*) accounts approximately less than 5% cases of candidemia. Those species are featured by showing a low antifungal susceptibility, but are poorly studied.

We studied the frequency, molecular identification, antifungal susceptibility, and capacity to form biofilm of uncommon *Candida* spp. isolates causing candidemia in patients admitted to Hospital Gregorio Marañón hospital, Madrid (Jan 2007 - Dec 2016).

METHODS

18 episodes of uncommon species causing candidemia

Molecular identification of isolates by sequencing of ITS region

Antifungal susceptibility by EUCAST E.Def 7.2 and comparison with the susceptibility of *C. albicans* isolates (n=54)

Biofilm formation by crystal violet and XTT reduction assay

Species	n (%)
C. albicans complex	347 (50.2)
C. parapsilosis complex	187 (27.1)
C. glabrata complex	74 (10.7)
C. tropicalis	50 (7.2)
C. krusei	15 (2.2)
Uncommon *Candida*	18 (2.6)

RESULTS

We found 18 episodes of candidemia caused by uncommon *Candida* species concerning 2.6% of all the episodes recorded in the institution. The species found after molecular identification are shown in Figure 1. The proportion of episodes per year ranged between 0% and 6% and a clear trend over time in the isolation of these species was not found (Figure 2).

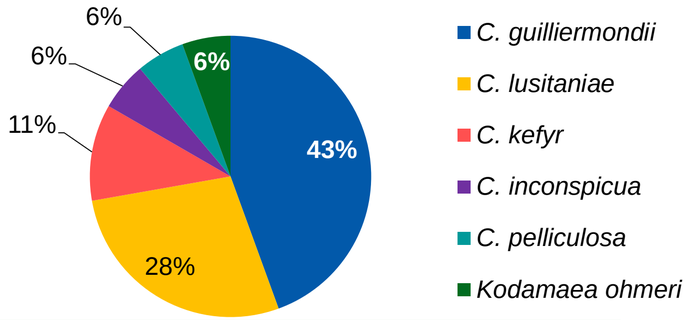

Figure 1. Species distribution of uncommon *Candida* spp.

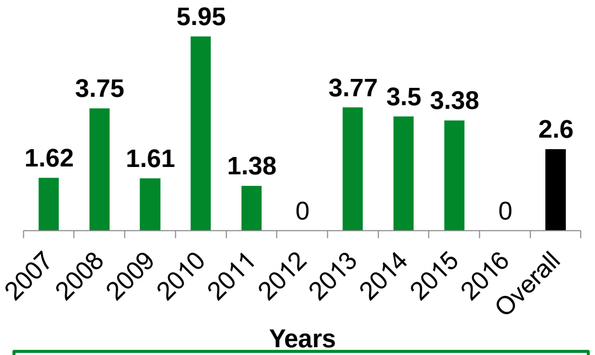

Figure 2. Percentage of episodes of candidemia caused by uncommon *Candida* spp. in each year.

The overall antifungal susceptibility of the uncommon *Candida* spp. is shown in Table 1, and it was significantly lower than that showed by *C. albicans* isolates.

Table 1. Antifungal susceptibility of uncommon *Candida* spp. and *C. albicans* isolates.

	Uncommon *Candida*		*C. albicans*	
	GM	Range	GM	Range
Amphotericin B	0.58	(0.062 - 2)	0.36	(0.062 – 1)
Fluconazole	2.33	(0.125 - 16)	0.21	(0.125 – 0.5)
Voriconazole	0.07	(≤0.015 - 2)	0.015	(≤0.015 – 0.062)
Posaconazole	0.09	(≤0.015 - 1)	0.015	(≤0.015 – 0.031)
Micafungin	0.15	(≤0.015 - 4)	0.015	(≤0.015)
Caspofungin	0.29	(≤0.015 - ≥8)	0.015	≤(0.015 – 0.125)
Anidulafungin	0.24	(≤0.015 - 2)	0.015	(≤0.015)

The rate of fluconazole resistance according to the non-species-related EUCAST breakpoints was 27.7%, being higher for *C. guilliermondii* complex (2/8) and *C. lusitaniae* (2/5) (Table 1). In the absence of available break points for the candins, the rate of resistance to these agents could not be calculated.

In terms of biofilm formation, the isolates were classified as low biofilm forming (n=12) or moderate biofilm forming (n=6).

CONCLUSIONS

Uncommon *Candida* species accounted for 2.6% of the episodes of candidemia and no emergence in the isolation of these species was found. Resistance to fluconazole was high and isolates showed a low or moderate capacity to form biofilms.

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