

Frequency of the paradoxical effect of the 3 echinocandins against *Candida* spp. studied using EUCAST

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Laura Judith Marcos-Zambrano ^{1,2}, Pilar Escribano ^{1,2,3}, Carlos Sánchez-Carrillo ^{1,2,3}, 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

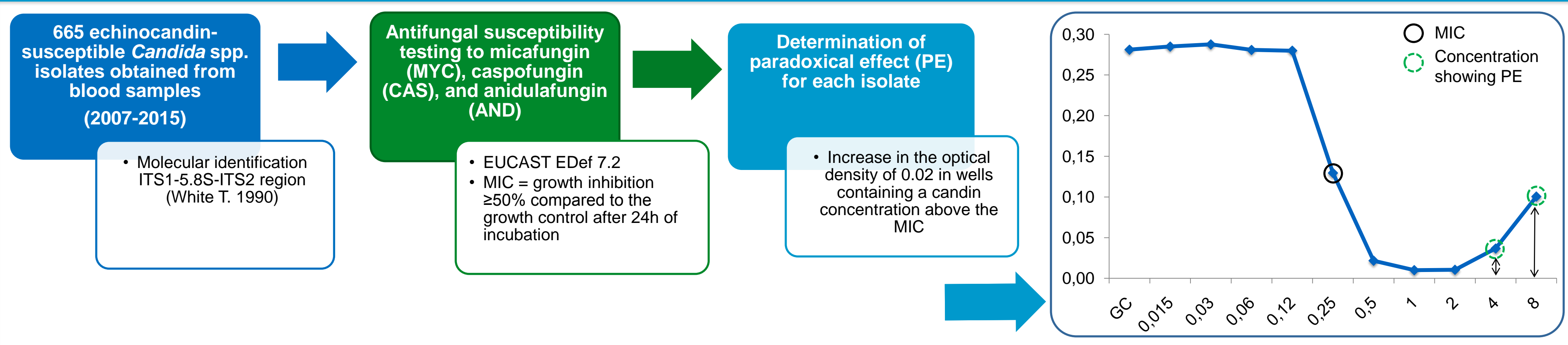
BACKGROUND

Echinocandins are the drugs of choice for the treatment of invasive candidiasis. The paradoxical effect is an in vitro phenomenon shown by echinocandins and is defined as attenuation of activity against *Candida* spp. at high concentrations. However, data regarding the frequency of invasive *Candida* spp. isolates showing the paradoxical effect are limited.

OBJECTIVE

We report data on the frequency of the paradoxical effect of the 3 echinocandins against clinically relevant *Candida* spp. using spectrophotometric reading of microtiter plates according to the EUCAST procedure.

METHODS



RESULTS

Overall, 16.8% of the isolates showed PE to ≥ 1 echinocandin with *C. tropicalis* as the species with the highest percentage of isolates showing PE (62.3%; $P < 0.001$).

Caspofungin (13%) was the drug in which PE was most frequently observed, followed by anidulafungin (10%) and micafungin (5%) ($P < 0.001$).

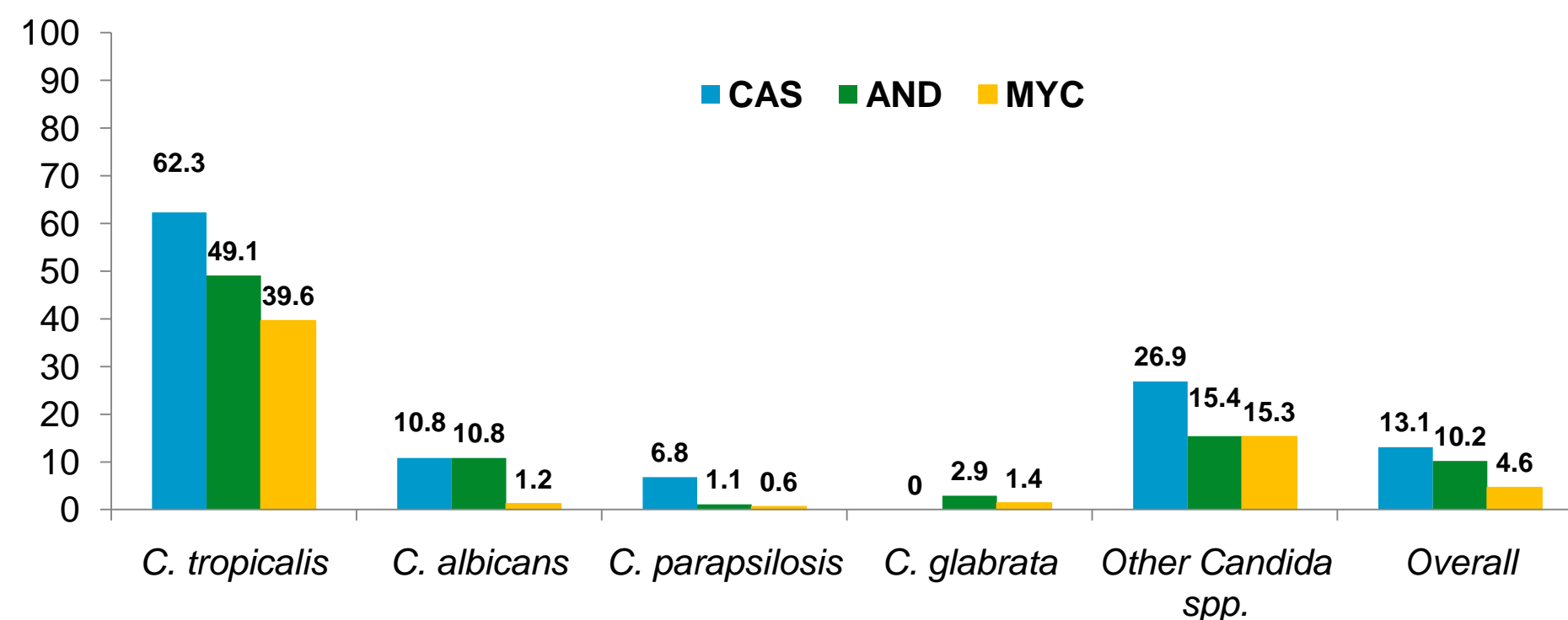


Figure. Percentage of isolates of each species showing PE to the three echinocandins.

Table. Antifungal activity of the echinocandins against the isolates tested (MIC geometric mean) and percentage of isolates showing PE to any echinocandin.

Species	No.	MYC	CAS	AND	% isolates showing PE ≥ 1 echinocandin
<i>C. albicans</i>	315	0.015	0.066	0.015	16.5
<i>C. parapsilosis</i> complex	189	0.881	0.412	1.462	8
<i>C. glabrata</i> complex	70	0.015	0.101	0.023	4.2
<i>C. tropicalis</i>	53	0.026	0.109	0.019	62.3
Other <i>Candida</i> spp.	26	0.103	0.224	0.122	34.6
Overall	665	0.057	0.131	0.069	16.8

CONCLUSIONS

- Up to 17% of *Candida* isolates showed paradoxical effect to ≥ 1 echinocandin.
- Caspofungin was the drug that more commonly presented paradoxical effect.
- Paradoxical effect was a species-specific phenomenon, with *C. tropicalis* being the species more commonly showing the effect.
- We are studying the clinical impact of this phenomenon.