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"Micafungin susceptibility of the most common *Candida* species in 16 French university hospitals: comparison between the Etest® and the EUCAST methods (MICACAND study)"

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Objectives: Micafungin is currently used in France. The aim of this study is to determine its activity against a recent (2014) French collection of *Candida* isolates. Although EUCAST is the reference method for *in vitro* antifungal susceptibility testing, it is not commonly used in routine clinical microbiology laboratories. Thus, it is important to evaluate alternative methods. We compared EUCAST and Etest for micafungin susceptibility testing of *Candida* spp. and we monitored the emergence of resistance.

Methods: Sixteen centers (6 in Paris area and 10 across France) participated in a two-months prospective study. Clinical isolates of various *Candida* species (mainly *C. albicans*, *C. glabrata*, *C. tropicalis*, *C. parapsilosis*, *C. kefyr* and *C. krusei*, about 10 isolates of each species per center) were tested by Etest, according to manufacturer's instructions. All isolates were subsequently centralized in one center for MIC determination by EUCAST method. For comparison purposes, Etest MICs were raised to the next higher EUCAST concentration. Resistance was defined based on EUCAST clinical breakpoints or on epidemiological cut-off values when clinical breakpoints were not available.

Results: A total number of 933 *Candida* isolates were tested. The overall agreement ($\pm 2 \log_2$ dilutions) between EUCAST and Etest was 97.9%.

Species	n	E-Test		EUCAST	
		MIC range	MIC range	% agreement with Etest	% resistance
<i>C. albicans</i>	159	0.015 - 0.06	≤ 0.015 - 0.06	100	1.3
<i>C. tropicalis</i>	152	0.015 - 0.5	≤ 0.015 - 1	98.7	0.7
<i>C. parapsilosis</i>	152	0.015 - 4	≤ 0.125 - 4	96.1	1.3
<i>C. glabrata</i>	152	0.015 - 0.125	≤ 0.015 - 1	98.7	3.9
<i>C. kefyr</i>	136	0.015 - 0.25	≤ 0.015 - 0.125	97.8	ND
<i>C. krusei</i>	127	0.015 - 1	≤ 0.015 - 0.25	96.9	0
Other <i>Candida</i> species*	55	0.015 - 1	≤ 0.015 - 1	94.5	ND
Total	933	0.015 - 4	≤ 0.015 - 4	97.9	ND

*: *C. lusitanae*, *C. guilliermondii*, *C. norvegensis*, *C. inconspicua*, *C. famata*, *C. pelliculosa*, *C. lambica*, *C. sphaerica*, *C. ciferii*, *C. catenulata*, *C. utilis*, *C. colliculosa*, *C. nivariensis*

Conclusions: This study demonstrated a very good agreement between Etest, performed on a routine basis, and EUCAST for micafungin MIC determination. Micafungin resistance among the main *Candida* species was uncommon.