

P2216 Comparison of azoles and amphotericin B MICs against Mucorales obtained after visual inspection or by spectrophotometric reading according to EUCAST 9.3.1

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Background: Isavuconazole has proven antifungal activity against Mucorales. The standard EUCAST EDef 9.3.1 procedure for antifungal susceptibility testing in moulds recommends visual setting of MICs. However, spectrophotometric plate reading may be an easy and less subjective method. We obtained and compared the MICs of amphotericin B, posaconazole and isavuconazole against Mucorales isolates obtained by both visual and spectrophotometric inspection of plates.

Materials/methods: We tested Mucorales clinical isolates (n=104) molecularly identified as *Cunninghamella* spp (n=8), *Lichtheimia corymbifera* (n=9), *Lichtheimia ramosa* (n=26), *Mucor circinelloides* (n=16), *Rhizomucor pusillus* (n=7), *Rhizopus arrhizus* (n=26), *Rhizopus microsporus* (n=8), and *Syncephalastrum* spp (n=4). Antifungal susceptibility to amphotericin B and both azoles was obtained according to EUCAST EDef. 9.3.1, and three different MIC endpoints were used: i) standard visual complete fungal growth inhibition, and spectrophotometric inspection (540 nm) resulting in either ii) >90% of fungal growth inhibition or iii) >95% of fungal growth inhibition compared to growth control. Essential agreement ($\pm 2 \log_2$ dilutions) between visual and spectrophotometric inspection was calculated.

Results: MICs obtained using the three endpoints chosen are shown in Figure. The essential agreement between MICs obtained either visually or using a spectrophotometer (fungal growth inhibition of 95%/90%) was: overall (80.1%/90.7%), amphotericin B (95%/100%), posaconazole (52.8%/75.9%), and isavuconazole (92.3%/96.2%). Agreement of MICs obtained by visual inspection and spectrophotometric read of fungal growth inhibition (>90%) for isavuconazole was above 92% with the exception of *Rhizomucor pusillus*.

Conclusions: Agreement of MICs against Mucorales for both isavuconazole and amphotericin B obtained according to EUCAST 9.3.1 either visually or by spectrophotometric reading (reduction greater than 90%) were comparable.

Species	Visual/Spect 90%/Spect 95% Geometric MICs mean (mg/L)		
	AMB	POS	ISA
<i>Cunninghamella</i> spp	3.4/2.8/5.6	1.4/16/16	16/16/16
<i>Lichtheimia corymbifera</i>	0.1/0.1/0.1	0.5/1.1/2.7	4.7/5.8/7.4
<i>Lichtheimia ramosa</i>	0.1/0.1/0.1	0.3/0.7/5.2	3.4/6.4/10.4
<i>Mucor circinelloides</i>	0.2/0.1/0.1	13.5/8/13.4	16.0/15.3/15.3
<i>Rhizomucor pusillus</i>	0.1/0.1/0.1	0.3/1/5.3	2.2/5.5/6.5
<i>Rhizopus arrhizus</i>	0.9/0.6/0.9	2.5/2.6/4.8	6.6/5.2/9.6
<i>Rhizopus microsporus</i>	0.8/0.6/1.2	6.7/11.3/16	10.4/8.7/10.3
<i>Syncephalastrum</i> spp	0.1/0.1/0.2	0.5/0.9/16	4.0/4.7/8
Overall	0.3/0.3/0.3	1.3/2.4/7	6.3/7.5/10.4

AMB: amphotericin B; POS: posaconazole; ISA: isavuconazole

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