

DISK DIFFUSION METHOD IN FOUR DIFFERENT AGAR MEDIA FOR DETERMINING SUSCEPTIBILITY OF *CANDIDA SPP.* TO VORICONAZOLE

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Objective: The purpose was to evaluate the disk diffusion test for determining susceptibility of *Candida spp.* to voriconazole (V) in comparison with the reference method (NCCLS M27-A2 document).

Material and Methods: We studied 203 *Candida spp.* (168 *C. albicans*, 26 *C. glabrata*, 9 *C. tropicalis*) isolated from clinical specimens. Susceptibility test was carried out by the agar diffusion method using disk with 1 mcg of V (Beckton Dickinson) on four different agar media: Yeast Nitrogen Base (YNB, Difco) plus 1.5% agar, Casitona (CAS), RPMI 1640 agar + 2% glucose (RPG) and Mueller-Hinton agar with 2% of methilen blue 2 % glucose (MH). The MICs obtained by the reference broth microdilution method (NCCLS M27-A2 document) (MDB) were defined as the lowest concentration of V that inhibited the 50 % of growth. Both methods were read after 24 and 48h of incubation at 35°C.

Results: At 24h, 201 strains (99%) had MIC values minor or equal to 2mcg/ml, showing 188 (93,5%) of these by YNB and 195 (97%) by CAS, RPG and MH zone diammeter major or equal to 18mm. Only 2 *C. albicans* strains (1%) showed MICs values major to 2 mcg/ml to V by MDB but none of these strains had inhibition zone diammeter minor to 18mm by disk diffusion method in the four media. At 48h, 144 strains (71%) had MIC values minor or equal to 2 mcg/ml, showing 106 (73,6%) of these by YNB, 123 (85.4%) by CAS, 135 (93.7%) by RPG and 132 (91.6%) by MH and inhibition zone diammeter major to 18mm. Fifty nine strains (57 *C. albicans*, 2 *C. glabrata*) (29%) had high MIC values (major to 2 mcg/ml) to V by MDB, 8 (13.5%) of these by YNB, 5 (8.5%) by CAS, 9 (15.5%) by RPG and 7 (12%) by MH had inhibition zone diammeter minor to 18mm.

Conclusions: Similar results were obtained using the four different agar media.

Better correlation between disk diffusion and the reference broth microdilution method at 24h/24h than at 48h/48h for strains with low MICs values to voriconazole.

By disk diffusion, reading was easier in Casitona and Mueller-Hinton agar.

Double inhibition zone diammeter was observed in all media excepted in Casitona.

The disk diffusion is a method easier to perform and easier to read than the reference broth microdilution method and is more available to clinical laboratories.

More studies are necessary with strains with high MIC values to voriconazole.