# *IN VITRO* ANTIFUNGAL SUSCEPTIBILITY OF CLINICAL ISOLATES OF CRYPTIC AND RARE SPECIES *OF ASPERGILLUS*: A COMPARATIVE STUDY OF MICS GENERATED BY BROTH MICRODILUTION AND ETEST METHODS

**Autores: Gonçalves, S.S.[1]**, Negri, C.E.[1], Xafranski, H.[1], Bergamasco, M.D.[1], Aquino, V.R.[2], Castro, P.T.[3], Colombo, A.L.[1]

**Instituições:** [1]Division of Infectious Diseases, Universidade Federal de São Paulo, Escola Paulista de Medicina, São Paulo, Brazil ; [2]Hospital das Clínicas de Porto Alegre, Universidade Federal do Rio Grande do Sul, Porto Alegre, Rio Grande do Sul, Brazil; [3]Hospital de Câncer de Barretos, Barretos, São Paulo, Brazil

**Resumo**

*Aspergillus* genus is the main cause of mold human invasive disease in tertiary care hospitals worldwide. *Aspergillus fumigatus* is the most prevalent species among clinical isolates but the isolation of non-*fumigatus* species has substantially increased in the last decades. Actually, more than 45 *Aspergillus* species have been described as human pathogens and some of these species may present reduce susceptibility against antifungal drugs. The Etest method has been considered to be a more suitable alternative for routine laboratories once it is more convenient and less labor intensive than the broth microdilution (BMD). However, the performance of this commercial system has not been extensively investigated with cryptic and rare species belonging to *Aspergillus* genus. The proposal of this study was to investigate the correlation between BMD and Etest methods by testing a large collection of 130 Brazilian clinical isolates representative of nine *Aspergillus* sections, including 29 strains of cryptic or rare species recovered from human samples and 68 and 29 strains representative of *A fumigatus* and *A. flavus*, respectively. All isolates were tested against voriconazole, itraconazole and posaconazole by using BMD methodology according to the Clinical and Laboratory Standards Institute (CLSI) and Etest® assay as described by manufacturer. A head-to-head comparison of azole MIC values as determined by both methods was performed. Essential agreements (EA) occurred when the MIC values results by Etest and reference methods were in exact agreement or were within ±1 and ±2 dilutions. The overall EA ±2 dilution to itraconazole was 86% to cryptic/rare *Aspergillus* species and 92% to non-cryptic/rare *Aspergillus* species. For voriconazole, the overall EA ±2 dilution was 79% to cryptic/rare *Aspergillus* species and 82% to non-cryptic/rare *Aspergillus* species. Finally, for posaconazole the EA ±2 was 91% and 93% for non-cryptic/rare and cryptic/rare *Aspergillus* species, respectively. Based on these data we may suggest that the equivalence between ETEST and MBD results was not different when testing either *A. fumigatus/A. flavus* strains or rare and cryptic species of *Aspergillus*. However, we need further studies involving a large number of rare and cryptic species of *Aspergillus* before extrapolating for the full genera the tests conditions that succeed to generate reproducible results with *A. flavus* and *A. fumigatus*.

**Palavras-Chaves:** *Aspergillus,* broth microdilution, cryptic and rare species, Etest, susceptibility

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