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Method for Antifungal Disk Diffusion Susceptibility Testing of Nondermatophyte Filamentous Fungi; Approved Guideline

This document describes the guidelines for antifungal susceptibility testing by the disk diffusion method of nondermatophyte filamentous fungi (moulds) that cause invasive disease.

A guideline for global application developed through the Clinical and Laboratory Standards Institute consensus process.

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Abstract

CLSI broth dilution reference methods are available for susceptibility testing of filamentous fungi (see CLSI document M38)[1] and yeasts (see CLSI documents M27[2] and M44[3]). There still remains, however, a need for an alternative simple, rapid, and cost-effective approach to determine the susceptibility of nondermatophyte filamentous fungi (moulds) to various classes of antifungal agents that would make antifungal susceptibility testing more readily available to clinical microbiology laboratories. The CLSI Subcommittee on Antifungal Susceptibility Testing developed a disk diffusion method for testing filamentous fungi to amphotericin B, caspofungin, itraconazole, posaconazole, and voriconazole.[4] Although clinical breakpoints have not been assigned, epidemiological cutoff values (ECVs) have been developed based on a comparison of zone diameters vs minimal inhibitory concentrations (MICs) or minimal effective concentrations (MECs) using the rate bounding method; control parameters for these agents have also been determined.[4] ECVs are not used as clinical breakpoints, but rather to detect those isolates that are likely to have acquired resistance mechanisms or reduced susceptibility to the tested agent as compared with the wild-type distribution. One significant advantage of this method is that qualitative results can usually be determined after only 16 to 48 hours incubation as opposed to 24 to 72 hours with CLSI document M38.[1] There are more antifungal agents and it is expected that this document will further encourage the development of disk diffusion testing for some of these agents.

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