

Characterization and antifungal drug susceptibility of clinical isolates of *Candida*
species

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ABSTRACT

Candida species are responsible for a wide spectrum of infections in man. They can be isolated from most sites of a human body. These mycoses are most common in immunocompromised patients as opportunistic infections. Azoles have been used in treatment, prophylaxis and currently as maintenance therapy for candidiasis in these patients. The aim of the study was to characterize *Candida* species from clinical sources and determine their susceptibilities to azoles in Kenya. The study was conducted in 2009 in a mycology laboratory at Kenya Medical Research Institute (KEMRI). A total of 50 isolates of *Candida* were characterized and correctly identified to species level by germ tube test, Pal's agar, Chromogenic agar *Candida*, corn meal agar and Analytical Profile Index (API 20C AUX). 45 isolates were identified as *Candida albicans*, 1 as *Candida glabrata*, 1 as *Candida famata* and 3 as *Candida parapsilosis*. Susceptibilities of *Candida* species to fluconazole, posaconazole, itraconazole and clotrimazole were determined using Epsilometer-test and disc diffusion method. Their Minimum Inhibitory Concentrations (MIC's) were correlated. In Epsilometer test, 78% of *Candida* species were susceptible to clotrimazole and posaconazole, 60% to fluconazole and 50% to itraconazole. In disc diffusion method, 92% *Candida* species were susceptible to clotrimazole, 74% to itraconazole, 78% to posaconazole and 46% to fluconazole. There were no significant differences in susceptibility between E-test and disc diffusion methods for clotrimazole, itraconazole and posaconazole which had low significance levels ($p < 0.002$). Fluconazole had the greatest difference between the two methods ($p = 0.002$) and a kappa value of 0.329. There is emerging fungal resistance to fluconazole and itraconazole therefore further investigations on fungal resistance and rational use of antifungal drugs is necessary.