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Incidence, phenotypical characterization, DNA typing and susceptibility to antifungal drugs of candida isolates from clinical samples

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OBJECTIVES

The non albicans Candida are increasingly being incriminated as primary pathogens causing blood stream infections and serious disease in NICU. These are known to exhibit innate as well as acquired resistance to the azole group of antifungal drugs.

METHOD

This study was a prospective one comprising of 75 isolates of Candida obtained from clinical samples. Speciation and antifungal susceptibility tests were carried out on all isolates.

RESULTS

The non albicans Candida (79.7%) outnumbered C. Albicans (29.3%), with a predominance of C. Tropicalis (34%), followed by C parapsilosis (22.7%). Antifungal susceptibility tests revealed a marked increase in resistance to fluconazole (36%) and to Amphotericin B (30.7%). A statistically significant difference in sensitivity of the isolates, to both drugs (P value = 0.008) was obtained.

Highest percentage of isolates were from urinary specimens. Administration of broad spectrum antibiotics (100% of cases studied) and catheterization were predominant risk factors. Total parental nutrition was associated with C parapsilosis. Non albicans candida predominated and hence genotyping by RFLP is considered essential for speciation and epidemiology. Genotyping of the candida isolates revealed diversity in gel patterns between ICU and ward isolates amongst C albicans, C tropicalis and C parapsilosis.

RECOMMENDATIONS

Speciation of Candida isolates is mandatory as the infections caused by these are life threatening. Antifungal susceptibility testing must become an integral part of the laboratory workup of every Candida isolate, in view of the increased incidence of resistance.