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Abstract (publication only)

Epidemiology of Candida species in critically ill patients in ICUs in a multi-speciality hospital in India

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Aim: To study the epidemiology of Candida isolates in critically ill patients, its risk factors and their antifungal susceptibility pattern. **Methods:** Retrospective study was conducted at a 650 bedded tertiary care centre : Medanta – The Medicity, Gurgaon, India between November 2009-October 2011 . Data of 5456 samples from patients admitted in ICUs (from November 2009 – October 2011) was analyzed. Identification of the isolates and their antifungal susceptibility testing was done using VITEK 2 (bio Merieux). **Results:** Out of 5456 clinical specimens 295 samples (5.4%) grew Candida Species. Candida was isolated from 104 blood samples, 115 from respiratory specimens (ET, sputum, BAL), 22 from body fluids (pleural, ascitic,) and 54 from urine. Non albicans Candida (71.6%) was more frequent than C.albicans (29.4%). C.tropicalis (39.3%) was the most frequent isolate followed by C.albicans (29.4%) and C.haemulonii (8%). According to our results, Candida infections were nosocomially acquired in 83.7% of cases and patients frequently had severe co morbidities. Liver transplant,CVC, Neutropenia & Liver cirrhosis were associated risk factors.During the 2 years of the study, a fall in Candida associated BSIs was seen after implementation of CLABSI bundle.C.tropicalis was the most predominant species followed by C.albicans. Susceptibility to routine antifungal agents varied according to the species .92% of isolates were susceptible to Voriconazole, 86.4% to Amphotericin B, 82.03% to Fluconazole, with variable sensitivity according to species. All C.krusei were resistant to fluconazole . 63% of C. hemulonii were resistant to Amphotericin B and ~50% were resistant to Fluconazole and Voriconazole. Candidial infections were found to be more common in men (70.5%), those above 45 years of age(76.27%), those with hospital stay of more than 9 days and patients from gastroenterology ICU(24.4%). **Conclusion:** Epidemiological studies including early identification, speciation and antifungal therapy are critically important in Candidial infections.Epidemiological data helps in risk assessment of cases and initiation of empirical treatment. Hence it is imperative to know the epidemiology of Candida spp. in one's own setup.New subsets of Non albicans Candida like C.haemulonii are emerging.Current antifungal agents have inadequate activity against current and emerging fungal pathogens. Use of newer generation antifungals like echinocandins improve outcomes in serious fungal infections.