P366 Epidemiology and antifungal susceptibility profile of infections caused by Fusarium species
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Antimicrobial resistance of Fusarium species isolated from different clinical samples was assessed to determine the antifungal susceptibility profile of Fusarium species from clinical samples.

Methods: This study was conducted over a period of 14 years in a tertiary hospital in North India, 84 clinical isolates of Fusarium species isolated from various clinical samples like sputum, ascites, pus, tissue, and blood. The isolates were characterized phenotypically and antifungal susceptibility testing was performed by broth microdilution method as per CLSI M38-A2 protocol. In this study, the susceptibility of Fusarium isolates was assessed against various antifungal drugs including azoles, echinocandins, polyenes, and DMIs.

Results: A total of 84 isolates were obtained from various clinical samples, including sputum, pus, ascites, tissue, and blood. The susceptibility of Fusarium isolates was assessed against various antifungal drugs including azoles, echinocandins, polyenes, and DMIs. The study found that the susceptibility of Fusarium isolates to azoles was variable, with some isolates being resistant to fluconazole, itraconazole, and voriconazole. The susceptibility of Fusarium isolates to echinocandins was also variable, with some isolates being resistant to caspofungin, micafungin, and anidulafungin. The susceptibility of Fusarium isolates to polyenes was variable, with some isolates being resistant to amphotericin B. The susceptibility of Fusarium isolates to DMIs was also variable, with some isolates being resistant to terbinafine and itraconazole. The study highlights the need for continued surveillance of antifungal resistance in Fusarium isolates to guide appropriate antifungal therapy.

P367 Study of magnitude and risk factors in patients with candidiasis at a tertiary care hospital with speciation and antifungal susceptibility of pathogenic Candida isolates.
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Objectives: Non-cosal candidiasis is associated with a mortality rate of over 60% while the attributable mortality rate is 48%. The present study was to determine the magnitude and risk factors in patients with Candida at a tertiary care hospital with speciation and antifungal susceptibility of pathogenic Candida isolates.

Methods: The present study was a prospective, cross-sectional, observational study, conducted at a tertiary care hospital for a period of two years after approval from the institutional ethics committee. A total of 190 patients of all age groups, admitted to hospital for >48 hours and diagnosed as proven Candida with isolation of Candida species from at least two blood culture samples or from a clinically significant single blood culture sample. A thorough history and clinical characteristics of each patient was noted. Blood was collected and processed as per standard protocol. Pathogenic Candida species and their antifungal susceptibility testing was performed by disk diffusion method as per the standard method. The antifungal discs used were fluconazole (25 μg), itraconazole (10 μg), voriconazole (1 μg), and amphotericin B (100 μg). Results were analyzed statistically using SPSS statistics 20.

Results: Candida species were isolated in the pathogen in 24/190 (12.7%) of clinically suspected cases of candidiasis. Candida species isolated were non-albicans Candida (NAC) species, mainly C. glabrata 15 (8.8%) followed by C. parapsilosis 24 (33.3%), and C. tropicalis 52/4 (28.3%). Candida glabrata was isolated as the pathogen, predominantly in patients of age group 0-10 years [15/24 (62.5%)]. Majority of Candida species were isolated from patients who had prolonged ICU stay. Among 24 patients of proven candida, 21 (87.5%) patients were from NICU, 10 (41.6%) from PICU, and 3 (12.5%) from MICU. Other important risk factors observed in the present study were, recent major abdominal surgery, malignancy, and mechanical ventilation, each accounting for 24/28 (85.7%) cases. The resistance pattern of isolates of Candida species to antifungal drugs showed that C. glabrata showed 100% resistance to fluconazole, 63.4% to itraconazole, and 45.4% to voriconazole. C. tropicalis showed 80% resistance to fluconazole, 60% to itraconazole, and 40% to voriconazole. C. parapsilosis showed 97.6% resistance to fluconazole, 62.7% to itraconazole, and 57.5% to voriconazole. All three isolated pathogenic Candida species showed >90% susceptibility to amphotericin B. Mortality observed in present study was 74/28 (27.9%). A total of 57 patients were from ICU.

Conclusion: Non-albicans Candida (NAC) species, mainly C. glabrata, C. parapsilosis, and C. tropicalis were the causative agent of candidiasis, seen to predominantly affect 0-10 year age group. Infections caused by Candida species remain a significant problem in ICU. An increase in resistance to azoles is a challenge to its empirical and prophylactic use. This underscores the usage of amphotericin, only on the basis of antifungal susceptibility patterns of the pathogenic isolates.

P369 Cross-resistance to clinical and agricultural azoles among Aspergillus fumigatus strains isolated from humans and environment in Italy
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Objectives: In Italy, a prevalence of 16.9% of resistance to clinical azoles was observed among Aspergillus fumigatus isolates from an agricultural environment. This spread of azole resistance is attributable to the widespread use of 14α-sterol demethylase inhibitors (DMIs).

The aim of the present study was to investigate the DMI resistance in Italian A. fumigatus strains of clinical and environmental origin, both susceptible and resistant to clinical azoles, the molecular mechanism of resistance in strains susceptible to clinical azoles but resistant to at least one of the tested DMIs, as well as DMI resistance induced by prolonged exposure to DMIs in the clinical and environmental strains, and the molecular mechanism of resistance.

Methods: A total of 34 A. fumigatus strains were selected: 23 susceptible to clinical azoles (CAS) and 11 resistant (CAR) with and without mutations in the CYP51A1 gene (TRER/5585, E219L, G486R, G346R, D429Y, M223H, or F444Y/M544I and E218F/R474K). Antifungal susceptibility testing was performed for 8 DMIs (fluconazole, voriconazole, econazole, suloconazole, posaconazole, itraconazole, fluconazole, and voriconazole) using broth microdilution method according to EUCAST and CLSI guidelines. Mutations in CYP51A1, CYP51B, and HMG1 genes were investigated in CAS with or without MIC values. In the selection of resistance, an MIC value was considered only if an MIC value was >0.5 μg/ml.

Results: For all azoles, a significant difference in the MIC values of azoles, both CAS and CAR. On the contrary, a statistical significant difference in clinical samples, voriconazole, suloconazole, posaconazole, and fluconazole, but fluconazole, voriconazole, and suloconazole showed a significant difference in the MIC values of azoles, both CAS and CAR. A significant difference in the MIC values of azoles, both CAS and CAR. The study showed that the MIC values of azoles, both CAS and CAR, are significantly different. The MIC values of azoles, both CAS and CAR, are significantly different.

Conclusions: A. fumigatus is known to be a highly adaptable fungus, and the development of resistance to azoles is a concern. The present study highlights the importance of monitoring the resistance profiles of A. fumigatus isolates to azoles, both clinical and environmental, and the need for continued surveillance to prevent the emergence of resistance to azoles.

Overall, the study provides valuable insights into the resistance patterns of A. fumigatus isolates and highlights the need for improved strategies to prevent the development of resistance to azoles.