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Abstract (publication only)

A retrospective study of fungi strains isolated from ocular specimens and their susceptibility during a five-year period in a tertiary hospital in Greece

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Objectives: To study the isolation from ocular cultures and the susceptibility of fungi to antifungal drugs in a tertiary Hospital of Athens, during a five year period (1/1/2008 – 31/10/2012) Methods: During the study period 1930 ocular samples were sent to the laboratory. Cultures were performed by the use of blood - chocolate - Sabouraud dextrose - Schaedler agar and thioglycolate enrichment broth. The yeasts were identified by VITEK II (bioMerieux) automated system and the molds by their macroscopic and microscopic characteristics. Susceptibility testing was performed either by VITEK II or by E-test on RPMI agar. Results: During five years period 1136 ocular samples were found to be positive (1136/1930, 59%). Fungi strains were 132 and were isolated from 131/1136 (11.5%) cultures. The incidence of the strains was: Aspergillus spp 42/132 (32%), non albicans Candida (NAC) 24/132 (18%), Candida albicans 22/132 (17%), Fusarium spp 14/132 (11%), Penicillium spp 7/132 (5%), Paecilomyces spp 4/132 (3%), one Acremonium spp 1/132, one Alternaria spp 1/132, one Scedosporium spp 1/132 and non identified 16/132 (12%). The origin of the strains was: corneal 63/131 (48%), corneal grafts 23/131 (17.5%), contact lenses 19/131 (14.5%), conjunctiva 15/131 (11.5%), vitrectomy cassette 4/131 (3%), aqueous humor 5/131 (4%) and vitreous humor 2/131 (1.5%). Resistance was observed to: amphotericin 15 strains [6 (86%) Penicillium, 3 (21%) Fusarium, 1 Acremonium, 1 Scedosporium, 1 Paecillomyces, 3 non identified], to flucytosine 28 [9 (64%) Fusarium, 6 (14%) Aspergillus, 2 (28%) Penicillium, 1 Acremonium, 1 Scedosporium, 1 Paecillomyces, 8 non identified], to fluconazole 47 (27 (64%) Aspergillus, 9 (64%) Fusarium, 4 (57%) Penicillium, 1 Acremonium, 1 NAC, 5 non identified], to posaconazole 5 (4 (29%) Fusarium, 1 NAC), while no resistance was observed to voriconazole. NAC and C. albicans were fully susceptible to caspofungin-anindulafungin and mycafungin and only two Aspergillus strains were found to be resistant to them Conclusions: The fungal strains isolated from ocular specimens in our hospital were approximately 12%. Aspergillus, NAC and C. albicans were the most common fungi, 32%-18% and 17%, respectively. The most resistant fungi were Fusarium and Penicillium. Candida strains were fully susceptible to echinocandines and all of the fungi isolations were susceptible to voriconazole