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A Abstracts IV CNSP Oral Comunications

1 Detection of cryptic species of Aspergillus with reduced susceptibility to antifungal agents in hospitals

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Introduction Invasive aspergillosis is a fungal infection caused by Aspergillus spp. affecting mainly the immunocompromised. The mortality rate may reach 85%. Aspergillus identification should be based on molecular methods as there are species morphologically similar but distinct at the molecular level (cryptic species), with variable antifungal susceptibility profiles.

Material and Methods During one year, 101 air and 99 surface samples were collected from Hematology, Oncology and Intensive Care units of a Portuguese Central of Lisbon. Aspergillus isolates were identified morphologically and by molecular methods. Determination of the susceptibility of selected isolates was performed by microdilution.

Results 548 fungal isolates were obtained. Of these, Aspergillus was the most frequently isolated genus (19.7%). Ten Aspergillus species complexes were identified (being the Versicolores the most frequent) and several cryptic species were detected. An association was found between season of sampling and the species complexes isolated (p=0.001). Complexes Circundati, Versicolores and Nigri had isolates with reduced susceptibility to antifungals: in Circundati complex, 3/6 isolates showed MIC to amphotericinB >8µg/ml (A. westerdjikae) and 1/6 MIC>8µg/ml to itraconazole (A. sclerotium/bridgeri), 1/5 isolates from Versicolores complex presented MIC to itraconazole >8 µg/ml (A. sidowii), all 4 isolates from Nigri complex showed MIC to itraconazole = 4 µg/ml.

Discussion and Conclusions Aspergillus is commonly isolated from the hospital environment. The study of prevalence, molecular epidemiology and susceptibility of Aspergillus cryptic species found in hospital environment is essential for the prevention of nosocomial infections and for antimicrobial resistance control, since a recent emergence of resistant strains has been observed.

Keywords: Aspergillus, cryptic species, hospital environment, nosocomial infections, antifungal resistence