
S01.2
Hospital environment: water supply and containment of aerosolised fungal particles. How far must we go in times of antimicrobial resistance?

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Invasive fungal infections depend on the interplay between host susceptibility and environmental exposure. Therefore, hospital environment is one of the major concerns in the management of nosocomial fungal infections, especially in wards bearing immunocompromised patients. Particular attention should be paid to the environmental risks associated with water since fungi can be aerosolized at water taps and showers. This may lead to fungal exposure by inhaled and ingested droplets, or even by direct contact with mucosae. Studies report that filamentous fungi and yeasts are commonly found on water-pipe inner surfaces, even in the presence of free chlorine. Air levels of Fusarium and Aspergillus conidia were found to increase in hospital environments after running showers multiple times. Species of these two genera are described as the most frequently found in this setting due to their conidal dispersion mode, as well as their ability to form biofilms. Despite the intrinsic resistance found in some species of these two genera, fungal exposure to antifungal agents via medical or agricultural use of these compounds, appears to have a major impact on acquisition of resistance to azoles; namely in Aspergillus fumigatus. The isolation of this species in hospital water and water reservoirs is therefore an even bigger matter of concern. More recently, several reports on nosocomial outbreaks caused by Candida auris have been described. This species is resistant to several classes of antifungals and is associated with high mortality. Contamination of hospital environment or transient colonization of medical devices and equipment may display an important role in the transmission of this species. C. auris was already found in water samples and therefore this reservoir should not be excluded as possible source of infection. In conclusion, fungal counts and detection of potential pathogenic species in water were, until a few years ago, the major concern of clinical and scientific community towards the reduction of nosocomial fungal infections originating in water devices. The emergence of infections caused by fungal isolates with intrinsic or acquired antifungal resistance triggered new levels of alert in this field.

S01.5
Spectrum of indoor fungi isolated from indoor environments in Busia-Kenya

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