it was found that more pathogenic fungi were grown in a laboratory environment which is clearly due to the processing of clinical samples in labs as compared to the community environment.

The use of standard aseptic precautions, biosafety cabinets, fumigation of laboratories, and regular housekeeping activities would help to decrease the aerosols generated in the labs. However, aeromycology data from more such studies over a larger number of labs from different demographic areas need to enable a better understanding of the role of the formulation of standards for a safer laboratory environment.

**P357**

**Update on risk factors for Candida auris Fungemia**

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Poster session 3, September 23, 2022, 12:30 PM - 1:30 PM

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Objectives: Infection with Candida species have been an increasing threat to hospital patients worldwide. During the last decade research has shown high mortality rates associated with candidemia and progressing drug resistance to NAC (non- azole Candida species). This study aims to identify risk factors for C. auris fungemia.

Methods: We retrospectively analyzed patient data with at least one C. auris or C. famata positive blood culture at Essen University Hospital between 2008-2020.

Results: 
- Among 1180 patients who tested positive for Candida spp. between 2008-2020, 40 were positive for C. auris and 786 for C. albicans.
- Candida auris presented as the leading species (57.1%), followed by C. glabrata (23.5%), C. parapsilosis (8.1%), C. tropicalis (5.1%), and C. krusei (2.3%).
- A total of 67.4% of patients were located at ICU. Incidence rates for Candida positive blood cultures increased from 1.5% to 10.0%.
- Candida auris was most common in patients 53-60 years of age.
- In both groups, overall survival was identical (52.2% C. auris/54.3% C. albicans). For C. auris correlation between outcome and antifungal treatment was highly significant (P = 0.04). A total of 20% more C. auris infected hemato-oncology patients died than in the C. albicans group (62.5% vs 46.5% C. albicans). In all, 61.0% of C. auris patients on ICU died. In the C. auris group all patients with CVC died and all patients without survived.

Conclusion: Candida-positive blood cultures increased from 1% in 2008 to 10% in 2020.

Three major risk factors for C. auris fungemia were found: CVC, hemato-oncology malignancies, and Hickopneumonia.

**P358**

Candida auris on survival on common medical supply surfaces under different environmental conditions

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Background: Candida auris is an emerging multidrug-resistant pathogenic yeast. The increasing frequency of C. auris outbreaks is prompting alarm worldwide. This yeast survives and spreads on contaminated medical supplies, resulting in hospital outbreaks. To learn more about the yeast’s spreading behaviors and transmission, we studied its persistence and survival on a variety of medical/office surfaces under diverse environmental conditions.

Methods: A total of 108 CFUs/ml solutions of four Candida species, including C. albicans, C. auris, C. parapsilosis, and C. glabrata, were inoculated onto different 2 x 2 cm sheets of cotton towels, polyethylene, paper, aluminum, glass, latex, and steel Sabourauds dextrose agar. Inoculated sheets were incubated at various temperatures and subjected to light and darkness at 1, 2, 7, 14, 30, 45, 60, and 120-day intervals. After culture of the sheets on Sabourauds dextrose agar plates, the viable CFUs of yeasts were counted.

Results: All four species remained alive on all surfaces for at least 1 week under ambient and refrigerating temperatures, darkness, and light exposure. However, only latex and polyethylene surfaces maintained viable C. auris and C. parapsilosis for a maximum of 50 days at ambient temperatures and darkness. C. auris survived on steel Sabourauds dextrose agar sheets for 4 months.

Conclusions: Candida auris and other pathogenic yeasts can survive on a variety of medical surfaces for extended periods of time. Latex and polyethylene are the best medical matrices for yeast persistence. If C. auris has access to organic and nutritional components, its survival could be greatly increased. To prevent C. auris transmission, appropriate disinfection and decontamination methods should be considered.

**P361**

Demystifying the NIH grant application process for international investigators

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The National Institute of Allergy and Infectious Disease (NIAID) funds one of the largest medical microbiology research portfolios. The Portfolio includes the major human fungal pathogens and covers basic fungal biology and the more translational areas of therapeutics, vaccines, and diagnostics. NIAID utilizes many granting mechanisms that are open to US and international researchers. These include investigator-initiated applications (R01, R21, and R35) and targeted announcements for fungal research. Additionally, NIAID has a suite of preclinical services supporting therapeutics, diagnostics, and vaccine development. These services are free and available to investigators in academia, not-for-profit organizations, industry, or governments worldwide. The NIH grant application process can be complicated. Tips and tricks for navigating the NIH applications process and preclinical services will be discussed.

**P362**

Seasonal trend of fungal flora in water of tertiary care hospital in North India

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Objectives: The study was conducted to assess the seasonal variation of fungal flora in hospital water of a tertiary care hospital in North India.

Methods: A total of 200 water samples from the main reservoir, overhead and groundwater tanks, and taps of critical care units of the hospital were collected. The water samples were filtered by membrane filtration technique (0.22 microns) and cultured on diethanol-rh/2-gang chlorophenol agar with and without blumax. The plates were incubated for up to 14 days. Fungal colonies recovered were sub-cultured on Sabouraud Dextrose Agar and identified by phenotypic methods. Yeast were identified by matrix-assisted laser desorption ionization time of flight (MALDI-TOF-MS).

Results: Mycologic fungi were isolated from 100% of the water samples which included Alternaria, Candida, Nigrospora, Penicillium, Aspergillus, Paecilomyces, Scytinidium, and Mycidae stellae as depicted in Figure 1. Different fungi were prevailing in different water storage units like: Advance 2 storage—A. fumigatus, A. flavus, Paecilomyces; Advance 1—Rhizopus, Penicillium spp.; Advance 3 storage—Cladosporium spp., Alternaria alternata, Penicillium spp. & A. flavus, A. niger, A. fumigatus, A. flavus, A. glaucescens, A. niger, R. oryzae; Advance 4 storage—Penicillium spp., Rhizopus spp., And Penicillium spp., Fusarium spp., Scytinidium spp. The seasonality of fungal isolation is depicted in Figure 2. Isolation rate of Aspergillus species was 35% in winter, 31% in post-monsoon, 25% in summer. Isolation rate of Penicillium species was 19% in post-monsoon, 16% in winter and 11% in summers. Maximum number of dematiaceous fungi were isolated in summer season with isolation rate of 35% in summers as compared to 23.3% in post-monsoon and 19% in winters.

Four yeast isolates were Rhodotorula, Trichosporon, and Uloplora. Mucorales isolates rarely included Rhizopus, Alleskea, Syn- cephalum, and Mucor species. Fungal colony forming units in the water samples ranged from 2 to 50 colony forming unit/liter of water.

Conclusion: The distribution of fungus in hospital water showed diversity and seasonal variability. Aspergillus species were isolated in maximum number in the winter season, Penicillium species in post-monsoon season and dematiaceous fungi in the winter season. Water as a source of fungal infection in critical care units remains a relatively neglected area. Water supply could be a source of nosocomial fungal infections. Improving the quality of water by regular testing for fungal contamination and appropriate action to reduce its burden may reduce the hospital-acquired fungal infections.