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.

The results from this study will be useful to spread awareness and help in formulating guidelines for the air quality of laboratories. However, aeromycology data from more such studies over a larger number of labs from different demographic areas are needed 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 krusei*-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-*albicans Candida*) species. This study aims to solidify risk factors for *C. krusei* fungemia.

Patients and Methods: We retrospectively analyzed patient data with at least one *C. krusei* or *C. albicans* positive blood culture at Essen University Hospital between 2008–2020.

Relevant categories consisted of age, gender, underlying condition, central venous catheters (CVC), steroids, leukopenia <4000/μl, diabetes, antifungal treatment, hospital ward, and outcome.

We used the Chi-Squared test to compare categorical valuables. *P*-values were considered significant <.05 and highly significant <.01.

Results: From 1380 patients who tested positive for *Candida* spp. between 2008–2020, 40 were positive for *C. krusei* and 786 for *C. albicans*.

Candida albicans presented as the leading species (57.0%), followed by *C. glabrata* (23.5%), *C. parapsilosis* (5.8%), *C. tropicals* (5.1%), and *C. krusei* (2.9%). A total of 67.6% of patients were located at ICU. Incidence rates for *Candida* positive blood cultures increased from 1.0% to 10.0%. Candida *krusei* was most common in patients 51–60 years of age.

In both groups, overall survival was identical (52.2% *C. krusei*/54.3% *C. albicans*). For *C. krusei* correlation between outcome and antifungal treatment was highly significant (*P* .044). A total of 20% more *C. krusei* infected hemato-oncology patients died than in the *C. albicans* group (62.5%

C. krusei/46.5% *C. albicans*). In all, 60.0% of *C. krusei* patients on ICU died. In the *C. krusei* 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. krusei* fungemia were found: CVC, hemato-oncology malignancies, and leukocytopenia.

P358
***Candida auris* 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-related surfaces under diverse environmental conditions.

Methods: A total of 104 CFU/mL solutions of four *Candida* species, including *C. auris*, *C. albicans*, *C. parapsilosis*, and *C. glabrata*, were inoculated onto different 2 × 2 cm sheets of cotton textile, polystyrene, paper, aluminum, glass, latex, and dried Sabouraud 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 Sabouraud 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 refrigerator temperatures, darkness, and light exposure. However, only latex and polystyrene surfaces maintained viable *C. auris* and *C.parapsilosis* for a maximum of 30 days at ambient temperature and darkness. *C. auris* survived on dried Sabouraud 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 polystyrene devices 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 Diseases (NIAID) funds one of the largest medical mycology 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 R03s) and targeted announcements for fungal research. Additionally, NIAID has a suite of preclinical services supporting therapeutic, diagnostic, and vaccine development. These services are free and available to investigators in academia, not-for-profit organizations, industry, or governments worldwide. The NIAID granting mechanism can be complicated. Tips and tricks for navigating the NIAID application 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 underground tanks, and taps of critical care units of the hospital were collected. The water samples were filtered by membrane filtration technique (0.22 micron) and cultured on dichloran rose-Bengal chloramphenicol agar with and without benomyl. The plates were incubated for upto 15 days and fungal colonies recovered were sub-cultured on Sabouraud Dextrose Agar and identified by phenotypic methods. Yeasts were identified by Matrix Assisted Laser Desorption Ionization Time of Flight (MALDI-TOF-MS).

Results: Mycelial fungi were isolated from 100% of the water samples which included *Alternaria, Curvularia, Nigrospora, Penicillium*, *Aspergillus*, *Paecilomyces, Scytillidium,* and *Mycelia sterilia* as depicted in Figure 1. Different fungi were prevailing in different water storage units like: Advance eye center— A. *fumigatus*, *A. flavus*, *Fusarium solani*, *Alternaria* spp. *Rhizopus arrhizus*, *Ustilago* spp., *mycelia sterilia, Trichosporon* spp.; Advance trauma Center—*Cladophaialophora* spp., *Alternaria alternata, Penicillium,* spp. *A. flavus*, *A. nidulans*, *A. fumigatus*, *F. solani*, *Rhodotorula* spp.: Bone marrow transplant unit— *Alterneria alternata*, *A. niger*, *A. flavus*, *A. versicolor, Cladosporium spp., Fonsecaea pedrosoi, Fusarium* spp., *Nigrospora spherica*, *Penicillium* spp., *Rhodotorula* spp., *Trichosporon ashaii*. The seasonal variation of fungal isolation is depicted in Figure 2. Isolation rate of *Aspergillus* species was 35% in winters, 31% in post-monsoon, 25% in summers. Isolation rate of *Penicillium* species was 19% in post-monsoon, 16% in winter and 15% in summers. Maximum number of dematiaceous fungi were isolated in summer season with isolation rate of 30% in summers as compared with 21.5% in post-monsoon and 19% in winters. Few yeasts isolated were *Rhodotorula, Trichosporon,* and *Ustilago*. Mucorales isolated rarely included *Rhizopus*, *Absidia, Syncephalastrum,* and *Mucor* species. Fungal colony forming units in the water samples ranged from 50 to 450 colony forming units/liter of water.

Conclusion: The distribution of fungi 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.