it was found that most 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, aerosol microscopy data from more such studies over a larger number of labs from different geographic areas needed to enable a better understanding of the role of the formulation of standards for a safer laboratory environment.

P377 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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Objective: 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 identify 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, underlying condition, central venous catheters (CVC), steroids, leukopenia (~4000/cell), diabetes, antifungal treatment, hospital ward, and outcome.

We used the Chi-Squared test to compare categorical variables. P-values were considered significant < 0.05 and highly significant < 0.01.

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 (57.1%), followed by C. glabrata (23.5%), C. parapsilosis (8%), C. tropicalis (1.1%), and C. krusei (0.8%). A total of 67.6% of patients were located at ICU. Incidence rates for Candida positive blood cultures increased from 1.9% to 10.0%. Candida krusei was most common in patients 53-60 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 < 0.001). A total of 20% more C. krusei infected-humans-oncology patients died than in the C. albicans group (62.5% C. krusei/60.5% 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, human-oncology malignancies, and leukopenia.

P388 Candida auris on survival of common medical supply surfaces under different environmental conditions
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Poster session 3, September 23, 2022, 12:30 PM - 1:30 PM

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/dental surfaces under diverse environmental conditions.

Methods: A total of 104 C. auris isolates from four Candida species, including C. albicans, C. parapsilosis, and C. glabrata, were inoculated onto different 2 x 2 cm sheets of cotton wool, polystyrene, paper, aluminum, glass, latex, and dental Saunders dextrose agar. Inoculated sheets were incubated at various temperatures and subjected to light and darkness at 1, 7, 14, 30, 45, 60, and 120-day intervals. After culture of the sheets on Saunders 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 polystyrene surfaces maintained viable C. auris and C. parapsilosis for a maximum of 50 days at ambient temperatures and darkness. C. auris survived on dental Saunders dextrose agar sheets for >4 months.

Conclusion: Candida auris and other pathogenic yeasts can survive on a variety of medical surfaces for extended periods of time. Latex and polystyrene discs 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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Poster session 3, September 25, 2022, 12:30 PM - 1:30 PM

The National Institute of Allergy and Infectious Diseases (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 project 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 NIH grant application process can be complicated. Tips and tricks for navigating the NIH application process and preclinical services will be discussed.

P382 Seasonal trend of fungal flora in water of tertiary care hospital in North India
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Objective: 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 microns) and cultured on dextrose rich-Bengal oil agar medium with and without brain heart infusion. The plates were incubated for up-to 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: Mycotal fungi were isolated from 100% of the water samples which included Alternaria, Curvularia, Nigrospora, Penicillium, Aspergillus, Paecilomyces, Scrophulina, and Mycodia as depicted in Figure 1. Different fungi were prevailing in different water storage units like: Advance eye center, A. fumigatus, A. flavus, Fusarium, Alternaria spp. Rhizopus spp., A. terreus alternata, Ustilago spp., mycelia sterilia, Trichosporon spp, Advance trauma center—Cladosporium spp., A. terreus alternata, Penicillium spp. A. fumigatus, A. niger, A. fumigatus, F. solani, R. oryzae—R. oryzae, A. parasiticus, F. solani, Nigrospora, and Fusarium, C. albicans, P. brasiliensis, A. parasiticus, C. albicans, A. brasiliensis, A. flavus, and A. parasiticus—P. brasiliensis.

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.