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, aerosolology data from more such studies over a larger number of labs from different demographic areas need to be made available to better understanding of the role of the formulation of standards for a safer laboratory environment.

P317

Update on risk factors for Candida auris- Fungemia

Julia C. Jansen, Hedda Luisa Verhaest, Peter Michael Rath
University Hospital Essen, Essen, Germany

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

Institute für Medizinische Mikrobiologie der Universität Essen, Robert Koch Haus, Vincenz Straße 179, 45147 Essen, Germany

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 progressive drug resistance to NAC (non-antifungal Candida species). This study aims to widely risk factors for C. auris fungemia.

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

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

We used the Chi-Square test to compare categorical variables. P-values were considered significant < 0.01 and highly significant < 0.001.

Results: From 1380 patients who tested positive for Candida spp. between 2008-2020, 49 were positive for C. auris and 786 for C. albicans.

Candida albicans presented as the leading species (57.0%), followed by C. glabrata (23.5%), C. parapsilosis (18.3%), C. tropicalis (1.1%), and C. krusei (1.3%). A total of 67.4% of patients were located at ICU. Incidence rates for Candida positive blood cultures increased from 1.3% to 10.0%. Candida auris was most common in patients 55-69 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 < 0.001). A total of 20% more C. auris infected hematology-oncology patients died than in the C. albicans group (62.5% C. auris/60.6% C. albicans). In all, 61% 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 15% in 2020.

Three major risk factors for C. auris fungemia were found: CVC, hematopoietic malignancies, and leukopenia.

P318

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

Hossein Khodadadi 1, Mohammad Taghipour 2, Kamal Zomorrodian 1, Reza Naei 3, Salar Hosseinpour 2
1 Shiraz University of Medical Sciences, Shiraz, Iran
2 Tabriz University of Medical Sciences, Tabriz, Iran

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/sterile surfaces under diverse environmental conditions.

Methods: A total of 104 CFUs, isolated from four Candida species, including C. albicans, C. auris, C. parapsilosis, and C. glabrata, were inoculated into different 2 x 2 cm sheets of cotton, textile, polyester, paper, aluminum, glass, latex, and sterile Sabouraud dextrose agar. Inoculated sheets were incubated at various temperatures and subjected to light and darkness at 21, 2, 7, 14, 30, 45, 60, and 120-day intervals. After culturing 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 refrigerated temperatures, darkness, and light exposure. However, only latex and polyester surfaces maintained viable C. auris and C. parapsilosis for a maximum of 50 days at ambient temperatures and darkness. C. auris survived on sterile Sabouraud dextrose agar sheets for >4 months.

Conclusions: Candida auris and other pathogenic yeast species can survive on a variety of medical surfaces for extended periods of time. Latex and polyester 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.

P319

Demystifying the NIH grant application process for international investigators

Dona Lee
National Institutes of Health, Rockville, Maryland

Poster session 3, September 23, 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 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 government worldwide. The NIH grant mechanisms can be complex. Tips and tricks for navigating the NIH’s application process and preclinical services will be discussed.

P360

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

Monika Mahajan, Haris Kaur, Shivrajkumar M Ruwashruth, Manisha Biswal, Pallab Ray
Postgraduate Institute of Medical Education and Research, Chandigarh, India

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

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-Benang chloramphenicol agar with and without bromothymol. 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: Mycelial fungi were isolated from 100% of the water samples which included Alternaria, Candida, Nigrospora, Penicillium, Aspergillus, Fusarium, Penicillium, and Rhodotorula. These were identified in different water storage units like: Advance ecos center—A. fumigatus, A. flavus; Penicillium americana; Aspergillus spp., Rhizopus spp., Mucor spp., and Fusarium spp. advance ecos centre—Cladosporium spp., Alternaria alternata, Penicillium spp., A. flavus; A. niger; A. fumigatus, and A. flavus; Rhizopus spp. Bone marrow transplant units—Alternaria alternata, A. niger; A. flavus; Cladosporium spp., Penicillium spp., Fusarium spp., or Nigrospora oryzae; Penicillium spp., Rhizopus spp., and Aspergillus niger. The seasonal variation of fungal isolation is depicted in Figure 2.

Conclusion: The seasonal variation of fungal flora in hospital water is depicted in Figure 2. The isolation rate of Aspergillus species was 31% in winters, 31% in post-monsoon, 25% in summers. Isolation rate of Penicillium species was 19% in post-monsoon, 16% in winter and 11% in summers. Maximum number of dermatophytes were isolated in summer season with isolation rate of 30% in summers as compared to 21.3% in post-monsoon and 19% in winters. Fewer yeasts isolated were Rhizoctonia, Trichophyton, and Ulocladium. Macarthritis isolated rarely included Rhizopus, Absidia, Syncephalastrum, and Mucor species. Fungal colony forming units in the water samples ranged from 95 to 450 colony forming units/water.

Condition: The distribution of fungi in hospital water shows diversity and seasonal variability. Aspergillus species were isolated in maximum number in the water sources, 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.