## P180

**An uncommon case of subcutaneous baadilbosomyces in a young adult — a case report**

**Athri Elumalai, Johnny Aye, David Livingstone, Mummy George, Shashikala Nair**

Pondicherry Institute of Medical sciences, Pondicherry, India

Poster session 2, September 22, 2022, 12:30 PM - 1:30 PM

Baadilbosomyces is an uncommon fungal infection of the subcutaneous tissue of the lower limbs caused by Baadilbosomyces farinaceus. It presents as diverse granulomatous inflammation of the skin and subcutaneous tissues affecting the immuno-compromised young adults. We report a 25-year-old male who presented with soft tissue swelling of the left lower limb for the past 4 months. He had consulted a private hospital previously when he underwent incision and drainage and was prescribed multiple antibiotics. As there was no resolution of the symptoms, he presented to us with oozing of the thigh and a 1 × 1 cm size non-healing ulcer over the posterior aspect at the site of incision with inflammation of the surrounding tissues. On examination, the surrounding tissues also showed induration and warmth. The routine blood investigations were normal and serology for HIV was also negative. The pus aspirate was cultured in Sabouraud’s Dextrose agar and incubated at 25°C showing growth of yeast, glabrous, humpy, radially furrowed colonies after 4 days. On macroscopic examination with lactophenol cotton blue preparation broad, asperuate hyphae with many unthickened, beaked hyphae were observed as characteristic of B. farinaceus. Based on the culture results diagnosis of subcutaneous mycosis was made and the patient was started on oral itraconazole therapy. There was a marked reduction in the size of oozing and healing of the ulcer following 10 months of oral itraconazole therapy. This report highlights the need for awareness of this disease for the correct diagnosis of this debilitating condition which is treatable.

## P181

**The effect of COVID-19 and immunosuppressive drugs and diabetes on the spread of mucormycosis**

**Maryam Esfandi**

Iran University of Medical science, Tehran, Iran

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Mucormycosis is a serious but rare opportunistic fungal infection that spreads rapidly, so prompt diagnosis and treatment are essential to prevent high mortality rates and complications. Mucormycosis is caused by the inhalation of fungal spores, especially in patients with suppressed immune systems. Mucormycosis affects human populations after COVID-19. According to searches, at least mucormycosis to COVID-19 has been widely reported from survivors, mild to severe. Of course, it seems that the underlying disease and most importantly uncontrolled diabetes or immunosuppressive diseases have provided the conditions for the development of black fungi. In addition, over-the-counter administration of steroid drugs to control inflammation of theacker seems to be another cause of the spread of the disease. Groups of patients were analyzed for the link between the COVID-19 epidemic and the outbreaks of mucormycosis. Black fungus usually causes necrosis of the head and neck, including the nose, paranasal sinuses, and facial bones, which can sometimes cause complications. Therefore, the present study emphasizes mucormycosis and its associated conditions, its mechanisms in normal individuals with COVID-19, the effective factors and challenges to overcome this black mold infection.

## P182

**Investigating the link between pleomorphism and virulence in Cryptococcus**

**Kenya Fernandes, James Fraser, Deo Carter**

University Of Sydney, Sydney, Australia

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Objective: Fungal pathogens Cryptococcus neoformans and C. gattii are responsible for hundreds of thousands of annual deaths in immunocompromised individuals. Considerable phenotypic variation is exhibited by strains in response to stress encountered during host infection, including increased capsule and cell size, the release of shed capsules, and the production of giant (>15 μm), micro (<1 μm), and irregular cells. We aimed to investigate whether the production of these morphological variants is associated with virulence under stress of strains. The first is a collection of diverse clinical isolates obtained from HIV/AIDS patients in Botswana with accompanying clinical data. The second is a collection of lines derived from the C. neoformans-type strain H99 with high genetic similarity but differing levels of virulence. Some lineages in this set possess a mutation in SGF29, which encodes a component of the SAGA histone acetyltransferase complex that has previously been implicated in their hypervirulence.

Methods: Isolates were cultured under conditions that simulate stress encountered in vivo (IMDM, 3% CO2, 95% N2) as those known to enhance capsule production and induce cell size changes. Cells were coimmunostained with perilipin, visualized by light microscopy, and phenotypes were scored. For clinical isolates, MLST analyses was performed to determine their idiomorphs. For H99 strains, Galactofuran 1-tarry test was performed, and the adherence and growth capacity was measured. For the C. gattii strains, both the serotype A and serotype B strains, growth capacity, and pigment production were measured. For the H99 strains, the capsule size was measured using the ImageJ software.

Results: Substantial phenotypic variations were seen across both collections. In the clinical strain set, phenotypic variables fell into two groups associated with differing symptoms. The production of large ‘giant’ phenotypes was associated with a higher CD4 count and was negatively correlated with intracranial pressure indicators, suggesting that these are induced in early-stage infections. "Small" phenotypes were associated with lower CD4 counts, negatively correlated with meningitis indicators, and positively correlated with intracranial pressure indicators, suggesting that they are produced later during infection and may promote proliferation and dissemination. Isolates possessing giant cells, multicells, and shed capsules were rare, but strikingly, they were associated with patient death.

In the H99 set, strains from hyperparasitic lines had larger average capsule size, greater variation in cell size, and increased production of microcaps and shed capsules. Deletion of SGF29 in an intermediate virulence lineage substantially increased in production of microcaps and reduced capsule, consistent with a switch to hypervirulence. SGF29 loss-of-function mutations were subsequently identified in clinical isolates and were found to be significantly correlated with patient death. Expansion of a TATA repeat in the second intron of SGF29 in clinical isolates was positively correlated with cell and capsule size, suggesting it also affects SGF29 function.

Conclusion: Our results extend the evidence for a link between pleomorphism and virulence, with a likely role for epigenetic mechanisms mediated by SAGA-induced histone acetylation.

## P183

**Candidemia in coronavirus disease 2019 patients in a university hospital in Buenos Aires, Argentina**

**Norma B. Fernandez1, Luciana Farías2, Stella Maria de Gregorio3, Andrea Padovan4, Monica Fosco5**

1 Section Micología División Infectología Hospital de Clínicas ‘Jose de San Martin’ Universidad De Buenos Aires, Buenos Aires, Argentina
2 Departamento Epidemiología División Infectología Hospital de Clínicas ‘Jose de San Martin’ Universidad De Buenos Aires, Ciudad Autónoma de Buenos Aires, Argentina

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It is known that the incidence and epidemiology of candidemia vary according to different geographic regions and hosts. Between 1999 and 2019, the incidence in a university hospital in the city of Buenos Aires, Argentina, 1:10 993.100 admissions), was 2.5 (10/4 931) in COVID-19 patients 14 (23/1595) in and the 1:19-ICU was 42.5 (4/2972). The average age of patients was of 67 years (23-99 years).

The emergence of the new species, Candida auris, has caused major concern globally. C. auris was first identified in 2009 in Japan and subsequently in other countries, including South America. C. auris is associated with nosocomial infections, particularly in patients with underlying medical conditions, and has been linked to increased mortality. The emergence of this species has highlighted the need for improved surveillance and rapid identification methods to accurately detect and track this emerging pathogen. The current study provides a comprehensive analysis of candidemia trends in Buenos Aires, Argentina, over the past two decades, from 2000 to 2022. This study included a review of clinical and laboratory data from a large university hospital in Buenos Aires, Argentina. The data were analyzed using statistical methods to identify trends and patterns. The results were presented in a detailed report, highlighting important findings and implications for future research.

Poster Presentations
Factors related to outcome of bloodstream infections due to Candida parapsilosis complex: A single center observational study from Central India

Rahul Garg, Padma Dix, Archana B. Wankhade, Prayag Agarwala, Sibani Behera
Department of Microbiology, AIIMS RAIPUR, Raipur, India
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Objectives: Candida parapsilosis infection has recently emerged as an important antifungal-resistant nosocomial pathogen having the unique ability to grow on inanimate objects and surfaces. Very limited studies from low and middle-income countries are available on the association of risk factors and antifungal susceptibility testing (AFST) of this species. The aim of the study was to analyze the predisposing conditions, outcome, and antifungal susceptibility pattern of candidemia due to C. parapsilosis complex.

Methods: A single-center retrospective observational study from January 2019 to December 2021 of all cases of candidemia was carried out at an 899-bedded University Hospital in central India. Data regarding demographic characteristics and clinical risk factors were collected from the patient's medical records. Antifungal susceptibility testing was performed, MIC results were interpreted according to CLSI breakpoints (M27-A3). Risk factors and outcome association at the species level were analyzed by using Fisher’s exact test. Variables with a P ≤ .05 in the descriptive analysis were analyzed by Cox regression. A P-value of ≤ .05 was considered to represent the statistical significance and all statistical tests were two-tailed.

Results: Of 213 patients diagnosed with candidemia during the study period, 52 (24.7%) were infected with C. parapsilosis which represented the second most frequently isolated yeast after C. albicans (n = 98, 46.4%). A total of 26 (48%) C. parapsilosis isolates were non-susceptible to fluconazole (NSF), which included resistant (n = 20) and susceptible dose-dependent (n = 6) isolates. The median age was 63 years, (IQR 3.3%) were neonates. The majority of patients (90%) suffered from multiple comorbidities, diabetes mellitus (43%) being the commonest. A total of 55% of patients underwent surgical intervention within 30 days from the onset of candidemia. Variance logistic regression revealed that ICU admission ( Odds ratio [OR] 2.45), central venous catheter use (OR 2.46), renal impairment (OR 1.687) were more common among NSF isolates than fluconazole-susceptible (FS) isolates (all P < 0.05). The overall crude mortality at 30 days was 36%, higher in patients infected with NSF isolates than FS isolates.