Factors related to outcome of bloodstream infections due to *Candida parapsilosis* complex: A single center observational study from Central 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, and 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* ≤ 0.10 in the descriptive analysis were analyzed by Cox regression. A *P* value of ≤ 0.05 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, 55 (25.9%) 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 3.5%), and 54% were females. The majority of patients (90%) suffered from multiple comorbidities, diabetes mellitus (45%) being the commonest. A total of 51% of patients underwent surgical intervention within 30 days from the onset of candidemia. Univariate logistic regression revealed that ICU admittance (odds ratio [OR] 2.45), central venous catheter use (OR 2.46), renal impairment (OR 1.48) were more common among NSF isolates than fluconazole-susceptible (FS) isolates (all *P* < 0.05). The overall crude mortality at 30 days was 34%, higher in patients infected with FS isolates than NSF isolates.
Condition: There is an increase in the absolute number of intravenous infections by C. parapsilosis observed over the past 2 years. At this moment, the percentage of the events non-wearable C. parapsilosis is very high and poses a threat to national patients and has a clinical impact in our hospital. Being able to identify and treat infections caused by this pathogen is important to prevent clinical outbreaks.

P136 A rare presentation of subcutaneous Entomophthoramycosis

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Entomophthoramycosis is a chronic granulomatous type of subcutaneous infection seen mainly in immunocompromised individuals. The usual focus of Candidobolus bolus infection is in rhinocentrophomycosis, characterized by chronic, indolent, and localized swelling of the nose, perinasal tissues, sinuses, cheeks, and upper lips and it subsequently affects the lower extremities.

We report a case of subcutaneous Candidobolus bolus in a 21-year-old male with an alleged history of trauma to left foot by a wooden stake 6 months back. Primary treatment of the wound was done at a local hospital. A total of 4 months post-trauma he developed multiple pus discharging ulcers on the dorsol and planter aspects of the left foot, for which local dressing was done in a nearby hospital. He presented to our hospital with non-healing multiple ulcers, with active serousanguinous discharge. He underwent wound debridement under spinal anesthesia and tissue was sent for fungal culture, histopathological examination.

Aerobic culture of the wound swab revealed moderate growth of Methylle-rum sulfate-hemolysis auras sensitive to clindamycin, gentamicin, and cefuroxil. Histopathological examination of the tissue showed a resolving abscess with granula
tion tissue. Direct microscopic examination of the tissue by KOH mount showed no fungal elements. It was inoculated into Sabouraud’s dextrose agar with and without chloramphenicol and incubated at both 25°C and 37°C. Sabouraud’s dextrose agar without chloramphenicol incubated at 37°C after 48 h of incubation grew cream-colored glucomass colonies adherent to surface with pale reverse. Lactophenol cotton blue preparation revealed broad, sparsely septate hyphae with primary conidia which are glabrous approx. 40 μm in diameter, produced singly. They have a characteristic protruding papillae on one side. The fungal isolate was identified as Candidobolus species. Sequencing results are awaited for species identification and confirmation.

Serial wound dressings were done following strict infection control policies and he was started on tablet flucytosine 400 mg twice daily, tablet imidazole 400 mg twice daily for 1 week, followed by 400 mg once daily for 6 months.

Candidobolus is a soil saprophyte, found in decaying vegetation in most warm climates in tropical countries. There has been only one published case report of subcutaneous entomophthoramycosis of the foot, in a 45-year-old female from Venezuela. To the best of our knowledge, we report the first case of subcutaneous entomophthoramycosis of the lower extremity in India and the second case in the world.

P137 Infant-juvenile paracoccidioidomycosis. Two Argentine endemic zones with different epidemiological and clinical aspects? What influences this situation?

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Argentina has two endemic areas of paracoccidioidomycosis (PCM). It is noteworthy that epidemiological characteristics differ in both areas, especially in frequency, and clinical aspects of paracoccidioidomycosis form (IF). In this work, we have reviewed and analyzed 10 years of paracoccidioidomycosis (IF) cases in both endemic areas in acetituberculosis (ATB). From January 2012 to December 2021 data of epidemiological characteristics, clinical history and laboratory results of IF cases were recorded on standardized protocols and entered into a database that helped consolidate the information.

Although the most extensive area of PCM historically with the highest incidence is located in Northeast Argentina (NEA), the major number of IF cases was observed in the smaller PCM endemic area, located in the Northwest of the country (NEA).

In NEA, 12 IF cases were recorded including 20 cases of IF form in children from 1-13 years old. No outbreak was registered. Cases were locally distributed over the 10 years.

In NEA, 28 IF cases were recorded including 9 cases of IF form in children from 7-14 years old. Of these cases, 43% (7/16) presented as an outbreak in 2012. The rest were only registered in 2018-2020.

More frequent clinical manifestations of IF:

NEA: 70% hepatospleniomegaly with peritonitis and acute, 15% gastrointestinal symptoms including diarrhea. Atele
cogranulomatous (7% cervical, 15% mediastinal).

SEROLOGY (IF) non-reactive: 32%.

NEA: 42% atelectas, 25% hepatospleniomegaly, 25% osteolytic lesions, 25% pulmonary nodules, 25% pericardial effu
dion, 25% mastocytosis. Atelecogranulomatous. Atelecogranulomatous (7% cervical, 42% mediastinal-rectopulmonary).

SEROLOGY (IF) non-reactive: 12.5%.

NEA records more cases of IF with a constant frequency and with a lower median age. NEA seems to only occur in outbreaks.

Are etiologic the different epidemiological characteristics observed? Predominantly hepatospleniomegaly and intestinal forms in NEA, being with local material the first sample where Paracoccidioides is detected in many cases. In contrast, more diverse clinical manifestations are observed in NEA. Most cases with bone-susceptible lesions and the presence of pulmonary and pericardial forms characterized IF in this zone.

Considering epidemiological data are important in the PCM diagnosis and to follow up the treatmentvacans, no reactive tests obtained (32% in NEA, 12.5% in NEA) show a serious diagnostic problem emphasized the need to work on more sensitive tools to reduce the high mortality of this clinical form. The variable expression of gp43 among isolates of Paracoccidioides species may suggest tests to use a single antigen preparation for serological test and include amastigotes isolation.

Our group reported clinical and anthropic changes influencing the appearance of IF outbreaks in NEA, a region where the observation of these cases was historically very rare. Probably, NEA provides a different ecological niche for Parac
coccidioides, which favors its constant appearance over time. We have already started a multicenter molecular epidemiological, probably include soil-studies of NEA would be important to try to better understand this situation.

P138 Persistent Pseudomona with Candida auris in a patient with enterocontusos fistula

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Objective: Candida auris (C. auris) is a major emerging threat to the healthcare sector in view of the difficulty in early identification by standard methods, multi-drug resistance, and case of spread in healthcare settings. Here, we report a case of Persistent C. auris fungemia in a 2-months patient with enterococcal fistula.

Methods: A 77-year-old man without any comorbidities underwent surgery for diverticular perforation which was compli
cated by intra-abdominal abscess, anastomotic leak, and multilayer resistant bacteria requiring high antibiotics, total parenteral nutrition, and prolonged ICU stay. Patient was admitted to our center with sepsis and blood culture grew C. auris. Patient was managed with injection of ceftazidime (the pvalue of novartreatment breakthrough). Patient continued to grow C. auris in the blood culture. It was added as a part of combination antifungal therapy. On dual antifungal therapy for 28 days there was a transient clearance of fungemia. Work up for endocarditis, intrathoracic collection, and subduralcollections were negative. But Patient was continued on total parenteral nutrition via central line in view of enterococcal fistula. Patient developed a recurrence of fungemia after 4 days of stopping antifungal treatment. Patient was started on injection of voriconazole and voriconazole (in view of on-treatment resistance to fluconazole), on which cultures turned sterile and patient improved. Plan was made to give total 6 weeks of parenteral combination antifungal therapy.

Results: C. auris management complexities evolve from multiple factors. The above case emphasises the urgent need for C. auris specific minimum inhibitory concentration breakpoints and standard guidelines for treatment. Currently, treatment is based on the Center for Diseases Control’s proposed breakpoints (extrapolated from other Candida spp.) Upfront combination antifungal treatment might be the answer till further studies.

Conclusions: Management of invasive C. auris infection presents a major therapeutic challenge to clinicians and a major threat to healthcare sector even after timely identification.

Table 1.

| Candida auris | drugs | ≤1 | 8/32 | 16 | ≤1 | ≥4 | 64 | Sterile |
|--------------|------|----|------|----|----|-----|----|--------|
| Candida auris | fluconazole | 32 | 8/32 | 16 | ≤1 | ≥4 | 64 | Sterile |
| Candida auris | caspofungin | 32 | 8/32 | 16 | ≤1 | ≥4 | 64 | Sterile |
| Candida auris | anfotericin B | 32 | 8/32 | 16 | ≤1 | ≥4 | 64 | Sterile |
| Candida auris | voriconazole | 32 | 8/32 | 16 | ≤1 | ≥4 | 64 | Sterile |