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Investigating an outbreak of neonatal Candida emia in the NICU of a 300-bedded hospital in North India

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Poster session 2, September 22, 2012, 12:00 PM - 1:30 PM

Objective: Neonatal Candidaemia causes significant morbidity and mortality in very low birth weight neonates. We report the occurrence of such an outbreak from the NICU of a 300-bedded hospital in North India.

Methods: A total of 96 blood cultures from 80 neonates admitted in the NICU from October 2020 to April 2021 were received and processed manually in the Microbiology lab. A total of 15 among the 47 emia isolates were retested for a study on antifungal susceptibility using broth dilution method. The two microorganisms isolated from blood culture were Candida albicans and Candida parapsilosis.

Results: Candida albicans was isolated from 10/47 blood cultures, and Candida parapsilosis from 5/47 blood cultures. The MIC values of 15 isolates were checked. Though the susceptibility was very less, it showed some differences in susceptibility. Candida parapsilosis was more susceptible to voriconazole, and Candida albicans was more susceptible to caspofungin, echinocandins, and fluconazole.

Conclusion: This study is the first detailed analysis of candidemia in the NICU of a 300-bedded hospital in North India. A protocol for the management of candidemia in NICUs has been designed, and some useful conclusions have been drawn. Further studies need to be carried out to evaluate the effectiveness of this protocol.

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Rare isolates from subcutaneous mycotic lesions: A study from tertiary care center in Chhattisgarh, India

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Aims and Objectives: To identify the causative agents of suspected subcutaneous mycotic lesions patients attending to a tertiary care hospital, Chhattisgarh, India.

Introduction: Subcutaneous mycoses are a group of fungal infections of dermis and subcutaneous tissue caused by both indigenous and intrinsically. It often affects patients with immunocompromised conditions. It consists of Aspergillus, Cladosporum, Mucormyces, Trichophyton, and Rhodotorula.

Methods: In all, 15 suspects were subjected to skin punch biopsy from the lesion site, which were subjected to KOH, Gram, India ink, and Ziehl-Neelsen staining. Immunohistochemical, and histopathological examination was done.

Results: Bacterial cultures were negative in all. Out of 15 suspects, 3/15 were proven to be due to subcutaneous mycoses. Three patients were diagnosed with Rhodotorula montevidensis, 2/15 were diagnosed with Candida albicans, and 2/15 were diagnosed with Candida parapsilosis.

Conclusion: This study highlights the importance of considering atypical fungi as potential etiologic agents of subcutaneous mycoses in immunocompromised patients.

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Pelvic mycoses—an unusual presentation of Rhodotorula emia in an immunocompetent patient

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Introduction: The rare and interestingly identified infections caused by Rhodotorula are usually lethal to the patient due to rapid mucosal invasion and the need for thorough surgical debridement and definitive antifungal therapy for its cure. Among the Rhodotorula, maximum cases have been reported among Moser & Opp's case.

Case: Here we present a case of a 9-year-old immunocompetent child presenting with abdominal pain and diarrhea of 1-month duration followed by swelling of bilateral lower limbs, which was gradual in onset. Ultrasonography of the abdomen and pelvis confirmed bilateral lower limb edema and was suggestive of subacute peritonitis. The child developed chest discomfort and dyspnea, and he was referred to the medical emergency room, where he was diagnosed with acute respiratory distress syndrome. Chest x-ray, which was evaluated to reveal a bilateral connection between both the lung and the stomach for the transverse colon was done. The UGI-guided biopsy of the left pelvic mass showed broad base apocrine histology in Eosinophilic and Eosin staining whereas the KOH showed the presence of more than 20 Rhodotorula colonies and no other etiology of the region and involvement of the posterior bladder wall. Considering the rapidity of the infection, injectional liposomal Amphotericin B at the dose of 5 mg/kg, i.v. was started and continued for one week with minimal improvement. However, with this clinical presentation and the persistently positive stool samples, Rhodotorula was suspected as the causal agent.

Treatment also was revised to injectional voriconazole at a dose 8 mg/kg, i.v. after loading dose, which was later shifted to oral dose. A repeat UGI-guided biopsy was planned for gene sequencing, which identified the organism as Rhodotorula azo. On follow-up, patient showed no clinical improvement and as well of the mycological evidence, the antifungal was changed from voriconazole after 2 weeks to oral trimethoprim at the dose of 200 mg following the loading after which significant improvement was achieved and patient was discharged.

Conclusion: Mold infection in the form of spreading necrotic mass in an immunocompetent child usually suggests the presence of Rhodotorula. Treating patients only on clinical grounds without mycological confirmation may lead to overlooking of Rhodotorula and may result in adverse outcomes. The diagnosis of Rhodotorula should always be considered as a differential for a fungal infection in the form of mass lesion or abscess.

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Fungal keratitis caused by Penicillium sp: Clinical and mycological characteristics

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Objective: Penicillium keratitis is rare and is caused by different species of Penicillium. However, different species of Penicillium cause keratitis due to their specific pathogenicity. The purpose of this study was to determine the characteristics, risk factors, treatment, and prognosis of patients with P. roquefortii keratitis, and also to present the antifungal sensitivity of the isolated strain.

Methods: A total of 26 patients was identified and their antifungal sensitivity was evaluated by the E-test. The mycological findings, antifungal sensitivity, and outcome of the treatment were recorded.

Results: A total of 26 patients were included in our study. The age of the patients ranged from 19 to 66 years. In all 25 patients, P. roquefortii was isolated from the ocular surface. In one patient, Sclerocystis australasiae was also isolated. None of the patients had a history of trauma. Clinical examination hypopyon was seen in three patients. The most antifungal medications were oral and topical voriconazole. After the successful treatment, all patients showed no sign of all previous lesions.

Conclusion: These patients hold the importance of determining causative organism of fungal keratitis and their antifungal susceptibility. Culture findings are limited in identifying organisms. Sequencing of polymerase chain reaction-amplified DNA is good for acarats and rapid identification of species that can be helpful for optimizing treatment.