Investigation of an outbreak of neonatal Candidaemia in the NICU of a 300-bedded hospital in North India

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Objective: Neonatal Candidaemia causes significant morbidity and mortality in very low birth weight neonates. We report the occurrence of a nosocomial outbreak of Candidaemia due to Candida freudii in the neonatal intensive care unit (NICU) of a 300-bedded hospital in North India.

Method: A total of 96 blood cultures from 80 neonates admitted in the NICU from October 2010 to April 2011 were received and processed manually in the Microbiology lab. A total of 5 among the 47 yeast isolates were sent to a teaching hospital for identification and antifungal susceptibility testing by matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF). Clinical parameters (very low birth weight, gestational age, birth asphyxia, broad-spectrum antibiotics, invasive procedures, immunosuppression), outcome and laboratory results were analysed to trace the source of the outbreak.

Results: Blood culture results in all, 57 yeast isolates (71.2%), 170/80 admitted to the NICU had positive blood cultures. A total of 47 blood culture yielded non-albicans Candida spp. (42.4%, 47/170). The other isolates from Candida albicans from blood culture were Candida lusitaniae, Candida glabrata and Candida parapsilosis. Candida albicans was isolated from blood samples of 45 neonates in NICU patients. It was observed that the usual bottle of IV fluids (eg, Ringer lactate, normal saline) was not capped and kept at room temperature.

Conclusion: We report an unusual outbreak of neonatal Candidaemia in the NICU of our hospital with a positive blood culture rate of 62.25%. This may be due to the lack of awareness with respect to the fungal susceptibility and antifungal treatment. Though the source of the outbreak could not be traced but the monitoring infection control practices could control the outbreak. This study emphasizes the need to educate healthcare workers and regular monitoring of infection practices to prevent health-care-associated infections.

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 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 isolated and mixed mycoas. It often affects patients with immunosuppressed conditions. In cases of Cryptococcus, Histoplasma, Coccidioides, Paracoccidioides, Blastomyces, Myosotis, subcutaneous (anomosporin), C. lusitaniae, C. albicans, Rhodotorula, and disseminated Pneumocystis. There are proven pathogenic agents causing subcutaneous mycosis though they are not regularly isolated and reported. Few of them are commonly seen in the laboratory. This emphasizes on the unusual clinical isolates from the patients having subcutaneous mycotic clinical with their laboratory significance.

Method: It is a retrospective descriptive analysis of data of subcutaneous mycosis cases of duration January 2019 to March 2022.

Result: Total 32 clinical specimens from the suspected subcutaneous mycotic lesion were studied. Male dominance was observed among the patients (78%). Among 32 isolates, 25 species were detected positive for fungal identities by direct microscopy, by culture, and by ITS sequencing in 5, 14, 1, 322 and 16 in total for rhodotorulae, stenotrophomonas, pseudomonas, pseudomops, and microsporum respectively. It is observed that most of the patients were suffering from skin infection with positivity in skin lesions.

Conclusion: This study emphasizes the need to educate healthcare workers and regular monitoring of infection practices to prevent health-care-associated infections.

P316

Infection control measures to prevent healthcare-associated infections in NICU

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

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Objective: To determine the fungal isolates and antifungal susceptibility pattern of NICU patients suffering from fungal infections. Method: Blood cultures were collected from NICU patients suffering from septic shock/hypoxia. The blood cultures were inoculated with the fungal media. The blood cultures were processed according to the standard protocol. Result: A total of 96 blood cultures from 80 neonates admitted in the NICU from October 2010 to April 2011 were received and processed manually in the Microbiology lab. A total of 5 among the 47 yeast isolates were sent to a teaching hospital for identification and antifungal susceptibility testing by matrix-assisted laser desorption ionization-time of flight mass spectrometry (MALDI-TOF). Clinical parameters (very low birth weight, gestational age, birth asphyxia, broad-spectrum antibiotics, invasive procedures, immunosuppression), outcome and laboratory results were analysed to trace the source of the outbreak.

Results: Blood culture results in all, 57 yeast isolates (71.2%), 170/80 admitted to the NICU had positive blood cultures. A total of 47 blood culture yielded non-albicans Candida spp. (42.4%, 47/170). The other isolates from Candida albicans from blood culture were Candida lusitaniae, Candida glabrata and Candida parapsilosis. Candida albicans was isolated from blood samples of 45 neonates in NICU patients. It was observed that the usual bottle of IV fluids (eg, Ringer lactate, normal saline) was not capped and kept at room temperature.

Conclusion: We report an unusual outbreak of neonatal Candidaemia in the NICU of our hospital with a positive blood culture rate of 62.25%. This may be due to the lack of awareness with respect to the fungal susceptibility and antifungal treatment. Though the source of the outbreak could not be traced but the monitoring infection control practices could control the outbreak. This study emphasizes the need to educate healthcare workers and regular monitoring of infection practices to prevent health-care-associated infections.