

P2234 *Candida albicans*, non-*albicans Candida* and rare yeasts in neonate fungaemia in a tertiary paediatric hospital in Greece, during 1999-2018

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Background: Fungaemia is an important cause of morbidity and mortality in neonates with most common cause *Candida albicans* (CA) and *Non-albicans Candida* (NAC). A retrospective study of fungaemia in neonate intensive care units (NICU) of "Aghia Sofia" Children's Hospital, during the last two decades, was conducted.

Materials/methods: 386 positive blood cultures for fungi, during 1999-2018, were studied. BD BACTEC™ blood culture system (*Becton Dickinson*) was used. Positive vials were subcultured on 5% sheep blood, chocolate, MacConkey (*Thermo Scientific™, Remel™*) at 35°C and Sabouraud-dextrose agar w/chloramphenicol 0.05% (*Bioprepare*) at 30°C. Colony morphology on Sabouraud and chromogenic agar (*Bioprepare*), germ tube test, API-AUX, API-yeast ID32, automated Vitek2 (*BioMérieux*), RapID Yeast Plus System (*Thermo Scientific™, Remel™*) were used for the identification, whereas some isolates were finally identified using molecular and/or proteomic techniques [D1/D2 region of 28S rDNA – sequencing, and MALDI TOF-MS (*BRUKER*)].

Results: 386 out of 3.500 total positive blood cultures (11.02%) revealed fungi. These 386 cultures derived from 152 neonates (male: 55.3%, female: 44.7% - ratio: 1.24), 56/152;63.4% with > 1 positive blood culture. Most of them (83/152;54.6%) had undergone surgery. Fatal cases: 36/152;23.6%. *C. albicans*: 93/152;61.2% and *Candida parapsilosis*: 37/152;24.3% dominated among fungaemias, followed by *Candida glabrata*:8/152;5.3%, *Candida famata*: 1/152;0.7%, *Candida guilliermondii*: 1/152:0.7% while the remaining *Non-Candida Yeasts* (NCY) were *Clavispora lusitanae*: 5/152;3.3%, *Cryptococcus terreus*: 1/152;0.7%, *Cyberlindnera fabianii*: 1/152:0.7%, *Malassezia furfur*: 3/152;2.0% and *Saccharomyces cerevisiae*: 2/152;1.3%. More than twofold increase in NAC/CA fungaemia was observed, during the second study decade (1999-2008: 2.5 versus 2009-2018: 1 CA/NAC ratio). Fatal cases were due to *C. albicans*: 26/36;72%, *C. parapsilosis*: 9/36;25.0%, and *C. glabrata*: 1/36;2.8%.

Conclusions:

1. *C. albicans*, followed by *C. parapsilosis* were the leading cause of neonate invasive fungal infections, these two decades (1999-2018).
2. Despite the more than twofold increase of NAC and other NCY fungaemia within the last decade, no mycological shift to overall *C. albicans* predominance was noted.
3. *C. fabianii* and *C. terreus* detected are uncommon fungaemia cause, in neonates and adults.
4. Surgery was the main morbidity factor.
5. Mortality was within bibliographical rates for neonates

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