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Abstract (poster session)

Invasive aspergillosis in children with oncohaematological diseases in Saint Petersburg, Russia

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Invasive aspergillosis (IA) is a severe opportunistic infection with high mortality. Publications about IA in children are limited. Objectives: We analyzed the risk factors, aetiology, clinical signs and symptoms, results of treatment of IA in children with oncohematological diseases in St. Petersburg, Russia. Methods: The prospective study was conducted during the period 2002-2012 y.y. Diagnosis of IA was made according to EORTC/MSG criteria, 2008. Results: We observed 87 pediatric patients with probable and proven IA. The mean age of patients was 10 years (range 0-17), male/female ratio 1/1. Main underlying diseases in children with IA were: acute lymphoblastic leukemia - 44%, acute myeloid leukemia - 27%, aplastic anemia - 7%, chronic myeloid leukemia - 6%, oncological diseases - 6%, acute undifferentiated leukemia - 5%, Hodgkin's lymphoma - 4%, myelodysplastic syndrome - 1%. The main sites of infection were lungs - 90%, sinuses - 10% and CNS - 8%. Two and more organs were affected in 12% of patients. The aetiology of IA: *A. fumigatus* - 55%, *A. niger* - 30%, *A. flavus* - 15%, and *A. terreus* - 15%. All patient received antifungal therapy: voriconazole (57%), amphotericin B deoxycholate (43%), itraconazole (24%), caspofungin (17%), liposomal amphotericin B (13%), posaconazole (4%), and amphotericin B lipid complex (6%). Combination therapy was used for 20% of patients (voriconazole+caspofungin, amphotericin B+caspofungin). Duration of treatment was 2-300 days (median - 39). Surgery was used in 5% of patients. Overall survival at 12 week was 71%. In multifactorial analysis positive prognostic factors of the 12th week survival were antifungal treatment with voriconazole ($p=0,06$) and caspofungin ($p=0,02$), combination antifungal therapy ($p=0,03$), and secondary antifungal prophylaxis ($p=0,01$). Conclusion: The main underlying diseases in children with IA were - acute lymphoblastic leukemia and acute myeloid leukemia (71%). The main aetiology agent was *A. fumigatus* (55%). Voriconazole was the main antifungal agent (57%). Twelve week overall survival was 71%. Positive prognostic factors of the 12th week survival were: treatment with voriconazole and caspofungin, combination antifungal therapy and secondary antifungal prophylaxis.