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P0154 Invasive aspergillosis in paediatric patients with malignancies after allogeneic haematopoietic stem cell transplantation or anticancer chemotherapy

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Background: Invasive aspergillosis (IA) is life-threatening infectious complication in children after anticancer chemotherapy or allogeneic hematopoietic stem cells transplantation (allo-HSCT). Publications on IA in pediatric patients with malignancies are limited.

Materials/methods: Retrospective analysis of the 105 pediatric patients with IA from 1997 to 2018. For the IA diagnosis EORTC / MSD, 2008 criteria were used.

Results: Group I – patients after allo-HSCT, n= 43 (41%), median age of 13 years, males – 51%. Group II – patients with combined chemotherapy, n=62 (59%), median age – 9, males – 58%. The most frequent hematological malignancies were acute lymphoblastic leukemia (52% vs 42%) and acute myeloid leukemia (35% vs 29%). The percent of solid tumors in groups was 0% and 11% respectively. Standard risk factors of IA in both groups were prolonged neutropenia ≥10 days – 76% vs 74%, steroid therapy – 53% vs 48%, and in allo- HSCT patients - graft versus host disease (86%) and immunosuppressive therapy (55%). The additional risk factors were long-term lymphocytopenia – 63% vs 44%, p=0.02, and severe viral infections – 49% vs 13%, p=0.01. Main site of infection were lungs (95% vs 89%), in allo- HSCT patients ≥ 2 sites were affected more often 23% vs 8%, p=0.03. Clinical signs of IA were non-specific in both groups. Proven IA was registered in 13,9% vs 9,6%, respectively. *Aspergillus* spp. were isolated in culture in 16,2% vs 16,1%, *A.fumigatus* predominantly – 57% vs 50%. Galactomannan test in bronchoalveolar lavage fluid was positive in 42% vs 39%. Antifungal treatment received 100% vs 97% of patients, with voriconazole only – 58% vs 56%. 12-week survival has no significant difference in two cohorts and is 75 % vs 81%, respectively.

Conclusions: The features of IA in pediatric patients after allo-HSCT were long-term lymphocytopenia (63%), more frequent dissemination of aspergillosis (23%) and concomitant viral infection (49%). 12-week survival has no difference in allo- HSCT and patients after chemotherapy (75 % vs 81%).