FUNGAL INFECTIONS IN CHILDREN DIAGNOSED WITH ACUTE MYELOID LEUKEMIA (2010-2017) – A SINGLE CENTER EXPERIENCE

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Background: Children with Acute Myeloid Leukemia (AML) are in increased danger of fungal infections (FIs). Up to 20% of newly diagnosed patients will eventually suffer a possibly life threatening FI. Nowadays, the incidence of FIs increases, probably due to extension of patients’ survival and the intensification of treatment. The majority of FI are caused by *Aspergillus* spp and *Candida* spp. However, an increase of other types of fungi is reported lately. FI can occur in any site. Diagnosis of FIs provides a challenge even in expert centres. FIs require long courses of treatment – sometimes with more than one antifungal drug - and are a major case of morbidity and mortality among patients with AML.

Purpose: We intend to describe the incidence and type of FIs in our patients with AML.

Materials – Methods: All children of our center diagnosed with AML between 1/1/2010 and 31/12/2017 were evaluated retrospectively. We selected only those with confirmed FIs at any site.

Aspergillus spp (3 *fumigatus*, 1 *terreus*, 1 *niger*) was responsible for the infection in 5 patients (71.4%), *Candida parapsilosis* in 1 (14.2%) and *Alternaria alternata* in another one (14.2%). Liposomal amphotericin B was given initially in all patients for a median of 25 days/patient (3-7mg/kg). After confirmation of the sensitivity tests, treatment was modified to voriconazole in 5 patients for a median of 77.8 days/patient and to posaconazole in 2 patients for a median of 35.5 days/patient. Five patients (71.4%) required at least one surgical debridement to control the infection. Those were all the patients with site-specific infection. One patient required multiple surgical debridements. Five patients were cured from FI and survived (71.4%) whereas 2 (28.4%) died due to disease progression with signs of FI.

ASPERGILLUS SPECIES

FUNGAL GENUS

Results: A total of 33 patients were diagnosed with AML during this period of time. A FI was confirmed in 7 of them (21,2%). Five patients (71.4%) received chemotherapy after initial diagnosis and 2 (28.5%) after relapse. The site of infection was lungs for 3 patients (42.8%), fungemia for 2 (28.5%) – although one with both fungemia and lung involvement, soft tissue for 1 (14.2%) and nasal mucosa for 1 (14.2%).

SITE OF INFECTION

Conclusions: Almost one out of 4 children with AML develops an apparent FI. *Aspergillus* spp is the main pathogen in our patients. Proper antifungal treatment resulted in a successful outcome for our patients. Disease progression was the main cause of death among those who died.