

Abstract

Background: Although the outcome of childhood leukemia and severe aplastic anemia (SAA) have been improved. Infectious complication is still the major concern and invasive fungal infection (IFI) is one of the most common causes of infectious related death in such patients with prolonged neutropenia.

Methods: The retrospective study of IFI in pediatric patients with acute leukemia including newly diagnosed acute lymphoblastic leukemia (ALL), acute myeloid leukemia (AML) and relapsed leukemia and SAA in Siriraj hospital, Mahidol University, Thailand, was conducted. Clinical data and outcomes were collected and analyzed.

Results: There were 241 patients (150 patients with ALL, 35 patients with AML, 31 patients with relapsed leukemia and 25 patients with SAA) with the median age of 5.4 years (range, 0.3-16.0 years). The overall prevalence of IFI was 23.2%, and the break down prevalence in ALL, AML, relapsed leukemia and SAA were 12.7%, 37.1%, 45.2% and 40.0% respectively. *Candida tropicalis* was the most common identifiable organism. Pulmonary IFI was the most common site of infection. The overall case-fatality rate was 50.0% with the highest rate in relapsed leukemia of 92.9% . In multivariable analysis, the age > 4 years, AML, relapsed leukemia and SAA were found to be independent risk of IFI with adjusted odds ratio of 2.3, 4.1, 5.1 and 3.7 respectively. In SAA group, only very severe aplastic anemia (ANC < 200 mm³) was found to be associated with development of IFI with odds ratio of 32.7.

Conclusion

The prevalence of IFI in Thai children with hematologic diseases appeared to be high. Besides AML and relapsed leukemia, Anti-fungal prophylaxis should be considered in patients with SAA to prevent the IFI.

