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abstract

Assessment of Infection Rate During the Induction Phase in Acute Leukemia Patients at the Pediatric Center - Hue Central Hospital, Vietnam

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Assessment of Infection Rate During the Induction Phase in Acute Leukemia Patients at the Pediatric Center - Hue Central Hospital, Vietnam

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Introduction: Acute leukemia is the most common cancer in children, and infections are one of the major complications during treatment. This study aimed to assess the incidence of infections during the induction phase of acute leukemia treatment.

Methodology: Patients diagnosed and treated for acute leukemia between December 2022 and July 2024 at the Pediatric Center, Hue Central Hospital, were included in this study. Data were extracted from medical records and analyzed using SPSS v.18.0 (IBM Corp., Armonk, NY, USA).

Results: A total of 55 patients with acute leukemia were included in the study, comprising 13 cases of acute myeloid leukemia (AML), 29 cases of high-risk acute lymphoblastic leukemia (HR-ALL), and 13 cases of standard-risk acute lymphoblastic leukemia (SR-ALL). Infections occurred in 85.5% of patients during the induction phase, with the highest incidence observed in the first two weeks of treatment. Patients with AML had a significantly higher infection rate compared to those with ALL (92.3% vs. 83.3%, $p < 0.01$). The most common site of infection was the oropharynx (29.8%), followed by the gastrointestinal tract (27.7%), lower respiratory tract (23.4%), and bloodstream (sepsis) (21.3%). Urinary tract infections were the least common (2.1%). Additionally, 21.3% of patients experienced infections involving two or more organ systems. The rate of positive blood cultures was 12.8%, while positive fungal cultures accounted for 4.2%. The success rate of infection treatment was 96.2%, with a mortality rate of 6.3%.

Conclusion: Infections are highly prevalent during the induction phase of acute leukemia treatment. Early detection and prompt administration of antibiotics are critical to managing infections and improving patient outcomes.