Prevalence and Risk Factors of Invasive Aspergillosis in Patients with Acute Leukemia in Srinagarind Hospital, Khon Kaen University

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Background: Invasive aspergillosis is the most common fungal infection and associated with high mortality rate in patients with acute leukemia.

Objective: This study aimed to evaluate the prevalence and clinical risk factors of invasive aspergillosis in patients with acute leukemia at the northeast of Thailand.

Methods: A retrospective study was performed in adult patients (aged >18 years) with diagnosed acute leukemia from January 2006 to December 2015 at Srinagarind Hospital, Khon Kaen University. Invasive aspergillosis was defined by the European Organization for Research and Treatment of Cancer and the Mycosis Study Group (EORTC/MSG). Clinical characteristics and laboratory data indicated as risk factors for invasive aspergillosis in previous studies were analyzed. Multivariate logistic regression analysis was used to identify clinical risk factors.

Results: There were a total of 355 patients with acute leukemia. Invasive aspergillosis was found in 39 patients (10.99%). Three clinical risk factors included: 1) neutropenia (adjusted OR 3.54, P =0.014), 2) viral hepatitis B infection (adjusted OR 3.13, P =0.030), and 3) construction worker (adjusted OR 23.08, P < 0.001), which had a significantly statistically association with invasive aspergillosis in patients with acute leukemia.

Conclusion: The prevalence of invasive aspergillosis in Thai patients with acute leukemia is modest. Neutropenia, viral hepatitis B infection, and construction worker are significant clinical risk factors for invasive aspergillosis in patients with acute leukemia. Invasive aspergillosis should be recognized in high risk patients with acute leukemia.

Keywords: Invasive Aspergillosis, Acute leukemia, Prevalence, Risk Factors, Srinagarind Hospital