Use of nasal lavage fluid galactomannan level for early diagnosing of invasive aspergillosis in leukemic patients

Abstract

Introduction: Invasive aspergillosis (IA) is the most common invasive infection among hematologic malignancy. Early diagnosis of IA has been challenging topic in this patients. In this study we evaluated the galactomannan levels of nasal lavage fluid (NALF) for IA diagnosis in leukemic patients.

Materials and methods: In a prospective study, 32 adult leukemic patients who were taking induction and/or consolidation chemotherapy leukemic patients with fever and neutropenia included. In all patients, Galactomannan (GM) levels of serum and NALF, and mycological examinations were evaluated before the first dose of antifungal therapy.

Results: Fourteen patients (43.7%) had NALF GM $\geq$ 0.5 while in sixteen patients (50%) the level of serum GM was $\geq$ 0.5. The level of NALF GM had a significant relation with the proven IA cases (p=0.048). The GM level of NALF with a cut-off of 0.45 (by ROC analysis) had 78% sensitivity and 64% specificity for diagnosis of invasive aspergillosis (p=0.033).

Conclusion: GM level of NALF would be likely useful to detect IA in leukemic patients as a safe and accessible method.

Key words: Galactomannan, Nasal Lavage Fluid, Invasive Aspergillosis, Hematological Malignancy, Leukemic patients