

Abstract

BACKGROUND: Invasive aspergillosis is the most frequent invasive fungal infection caused by filamentous fungi from the genus *Aspergillus*, particularly in patients with acute leukemia and after hematopoietic stem cell transplantation. Early diagnosis and prompt initiation of antifungal therapy significantly improve outcomes of the treatment of this serious infectious complication. For the diagnosis of invasive aspergillosis, the major serological marker in common use is galactomannan.

AIMS: To evaluate the significance of the diagnostic value of serial screening of circulating GM by using a recently developed sandwich enzyme-linked immunosorbent assay (ELISA) for prolonged – neutropenic and/or steroid treated patients with hematological disorders and patients undergoing stem cell transplantation.

METHODS: Assessment of galactomannan antigen was performed using the standardized ELISA, detection of *Aspergillus* DNA was performed using the PCR. Serum samples were obtained from 94 patients (57 men and 37 women). The average age was 55,81.

RESULTS: The sensitivity and specificity of serial GM monitoring were 75,93 % and 92,44 % respectively. The positive predictive value was almost 41,84 %, the negative predictive value was 98,17 %. Based on the ROC curve, the cut - off 0,5 (optical density index) for the ELISA could be acceptable.

CONCLUSIONS: The Platelia *Aspergillus* EIA is a useful screening test for the detection of IA. Serial determination of serum GM by the sandwich ELISA technique is a sensitive tool for the diagnosis of IA in hematological patients at risk. This approach may substantially influence clinical management with regard to preemptive and empirical antifungal therapy.