1462. Bronchoalveolar Lavage Lateral-Flow Device Test for Diagnosing Invasive Pulmonary Aspergillosis in ICU patients: a multicenter study

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Background. In invasive pulmonary aspergillosis (IPA) timely diagnosis is a key factor for successful treatment. Galactomannan testing from BAL represents a current gold standard. However, turnaround time and availability remain limitations of galactomannan (GM) testing. These limitations may be overcome by the Lateral- Flow Device (LFD) test, a single sample point-of-care test for native BAL testing that is based on the detection of an Aspergillus extracellular glycoprotein antigen by monoclonal antibody JF5. This study evaluates the LFD test by using bronchoalveolar lavage (BAL) samples from patients at intensive care units (ICU).

Methods. A total of 129 BAL samples from intensive care unit patients without hematological malignancies or solid organ transplantation (95 from Graz 24 from Innsbruck, 10 from Vienna) were included between July 2012 an March 2014 in this study. 22 ICU patients (16 from Graz, 4 from Innsbruck, 2 from Vienna) had probable or proven IPA. Diagnostic accuracy of LFD test for probable/proven IPA was evaluated. Clinical findings, fungal cultures and BAL GM were used for IPA grading (cut-off 1.0).

Results. Sensitivity and specificity were 73% (Graz 75%, Innsbruck 50%, Vienna 100%) and 91% (Graz 88%, Innsbruck 95%, Vienna 75%), respectively. PPV and NPV as well as diagnostic odds ratio of LFD test for probable/proven IPA were 62%, 94%, 25.9 (95%CI 8.3-81).

LFD resulted negative in 6 patients with probable IPA. BAL GM was tested in four of those patients and revealed levels of 3.4, 0.84, 0.74 and 0.2. In a total of three patients (including the latter with a BAL GM below the cut-off) BAL culture grew Aspergillus fumigatus.

Conclusion. The LFD test of BAL specimens is performed easily and provides accurate and rapidly available results. Therefore, this new point-of-care test may be a very promising diagnostic approach for detecting IPA in BAL specimens from ICU patients.

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