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Abstract (poster session)

Galactomananan assay performance in bronchoalveolar lavage for the diagnosis of invasive aspergillosis in imunocompromised hosts

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Background: Invasive pulmonary aspergillosis (IA) is a major cause of morbidity and mortality in immunocompromised patients, particularly those with hematological malignancies in the setting of profound neutropenia and/or hematopoietic stem cell transplantation and transplant recipients. The diagnosis of IA in immunocompromised patients is a challenge. Recently, research has shown that galactomananan (GM) assays are useful in diagnosis, especially when performed in bronchoalveolar lavage (BAL) where there is a greater sensitivity and earlier kinetics compared with serum. Methods: We performed a prospective study from December 2008 to August 2011 to determine the clinical features and diagnosis of invasive aspergillosis in 42 immunocompromised patients of the Hospital das Clínicas da Faculdade de Medicina da USP, classified according to the EORTC criteria as proven, probable or possible IA (without considering GM as criteria for diagnosis) along with 18 controls with other diseases such as tuberculosis, herpes, sepsis, febrile neutropenia, lymphoma, toxoplasmosis, cytomegalovirus and lung cancer. We evaluated the effectiveness of BAL GM assay in diagnosing IA in these populations. Results: Eight samples were associated with proven, 12 with probable, and 20 were associated with no IA. Using BAL GM >= 0.7, the sensitivity in diagnosing proven or probable IA was 60% (12/20) and specificity was 95% (19/20). At these cutoffs, positive and negative predictive values were 92.3% (12/13) and 70,3% (19/27). Considering GM >=1.0 as cut-off, the sensitivity was 55.5% and specificity 95.3%. Comparing these results with the new EORTC/MSG classification that includes GM as one of the criteria for probable cases, the sensitivity for GM >= 0.7 increased to 69.2% and for GM >= 1.0, the sensitivity was 50.0%, specificity is the same for both cut-offs. In this study 98% (39/40) of patients were already receiving antifungal agents for at least 72 hours at time of BAL. Conclusions: The BAL GM assay appears promising for the diagnosis of IA and in these samples even including other diseases common in our center the best cut-off was lower than 1.0. However, our diseases known as causes of false positive results for seric GM need to be included in the control samples of BAL.