Reviewer's report

**Title:** Galactomannan testing of bronchoalveolar lavage fluid is highly reliable for diagnosis of invasive pulmonary aspergillosis in hematology patients

**Version:** 2  **Date:** 14 September 2009

**Reviewer:** Emilie Fréalé

**Reviewer's report:**

Hsu et al. report a prospective study on 62 patients, 10 cases and 52 controls, in order to evaluate GM detection in BAL for the diagnosis of invasive pulmonary aspergillosis (IPA) in hematology patients. GM detection in BAL is an EORTC/MSG criterion for IPA diagnosis, but no cut-off has been defined. Here, the authors propose a 1.1 cut-off, with a 100% sensitivity and 98.1% specificity. This cut-off is higher than the 0.5 or 1 previously published cut-offs, and could be related to the late sampling of BAL or to the few number of cases of IPA (n=10).

**Major compulsory revisions**

1. In spite of the size of the unit (900 beds) and the period of the study (nearly 2 years), few cases of IPA have been included. The authors should be more precise on the design of the prospective study: number of patients (especially hematological patients) which underwent BAL sampling between 1 November 2007 and 18 June 2009, inclusion criteria for the cases and controls (were all the patients with proven or probable IPA included? matching of case and control groups?).

2. The design of the mycological part of the study is also unclear. More details about BAL sampling and analysis are necessary: was BAL systematically done after CT scan? Which tests were systematically performed on BAL: direct examination, culture (please explain why BAL fungal culture was performed for only 10 patients of the control group 1, see Page 7, Line 13)?

For serum GM detection, sampling frequency defined in the prospective study and number of samples per patient should be added. Although GM was performed twice a week for patients at risk for IPA (Page 8, Line 21-22), only 11 out of 17 patients from the control group 1 have been tested. This contradiction needs to be explained.

3. Number of patients receiving antifungal therapy and duration of the treatment before BAL sampling should be detailed. For example, for the 9 out of 10 API patients receiving antifungal therapy, what was the duration of the treatment?

**Minor Essential Revisions**

1. In Figure 1A, the 3 groups: cases, control groups 1 and 2 should be clearly indicated.

2. The English needs to be checked by a native speaker.
Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.