Reviewer's report

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

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Reviewer: Alessandro Pasqualotto

Reviewer's report:

This manuscript by Dr Hsu and colleagues show the importance of using a higher cut-off for GM testing in BAL testing. The article is well-written and the message seems clear.

MAJOR POINTS

- It is not clear how cases of probable / proven IA were defined. Was serum GM accepted to upgrade patients to ‘probable’ IA? If not, how were these cases diagnosed? It would be interesting to have a table describing each of the 10 positive cases. Please describe what haematological condition patients had.
- The authors refer at all times to ‘Invasive Aspergillosis’ but just a few cases were confirmed by culture taken from a normally sterile site. Therefore, these cases should be classified as ‘Invasive Mould Disease’. Regarding the 3 cases in which acute-angle branching hyphae were observed – what was recovered in culture?
- The authors also mentioned that BAL was performed only in patients who had negative serum GM results. Theoretically that means the inclusion of patients at early stages of invasive fungal disease – potentially a selection bias. That deserves a better discussion. It is not clear to me why patients with positive GM in the serum were excluded from the study (actually, there are 3 patients with positive GM results in the serum).
- Did authors include only one sample per patient? Please clarify that. Were positive GM results confirmed by a new test?
- It is the view of this referee that different cut-offs should be used when different clinical samples are analysed. However, how can we standardise BAL sampling? What volume? Should we centrifuge BAL samples and take the supernatant or mix using vortex? How did authors do that in their centre?

MINOR POINTS

- EORTC/MSG, not EORTC/MTG
- Did the authors observe any false-positive GM BAL result in patients taking pipe-tazo? That would be interesting to mention.
- The authors discussed that BAL GM testing was reasonable safe with higher sensitivity compared to serum GM – however, this assumption is not based on experimental results, since sera results were not showed in the study.
- The authors should better discuss why higher GM titres are observed in the BAL, in comparison to sera. In this regard, it would be interesting to cite the experimental study by William Hope et al (J Infect Dis).

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**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 related to this manuscript.