Sir,

The cutoff value for bronchoalveolar lavage (BAL) galactomannan is highly debatable, with studies stating that an optical density (OD) index value of ≥3.0 corresponded to a 100% specificity, thus ruling the disease in, irrespective of the pretest probability. Conversely, an OD index cutoff of <0.5 corresponded to a high sensitivity.

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Bronchoalveolar lavage contamination by sterile containers: A unique and unrecognized cause of a false-positive galactomannan

Sir,

The cutoff value for bronchoalveolar lavage (BAL) galactomannan is highly debatable, with studies stating that...
virtually always ruling the disease out.[1] At our tertiary care hospital in Mumbai, we performed a study to evaluate the background BAL galactomannan levels in patients not at risk of invasive pulmonary aspergillosis to establish a background galactomannan level in our population.

The central finding of our study was that the mean galactomannan level in the 48 patients not suspected of having invasive aspergillosis was 1.51 (ranging from 0.31 to 5.012), which is much higher than the Food and Drug Administration (FDA)-approved cutoff of 0.5. BAL samples in these patients were collected for an indication other than an invasive fungal infection and sent for galactomannan testing as a part of the study. In this study, 39.6% of the cases had presumptive tuberculosis, 27.1% of the cases were diagnosed with definite tuberculosis, 10.4% of cases had sarcoidosis and interstitial lung disease each, and 8.3% of cases turned out to have cancer. None had any clinical, radiological, histopathological, or microbiological evidence of invasive aspergillosis or aspergilloma.

None of the samples tested negative for galactomannan considering FDA-approved cutoff of 0.5 for invasive pulmonary aspergillosis. Due to consistent positive galactomannan reports from these patients, we began investigating the possible source of contamination. Normal saline (not Plasma-Lyte) was used to perform the lavage. None of the patients were on piperacillin-tazobactam within a week of performing the test. Sterile normal saline was flushed through the bronchoscope and collected in the same sterile containers that the BAL samples were sent in. All these samples tested positive. Bronchoscope decontamination was found to be adequate. Sterile saline was then sent directly in sterile containers, and these samples also tested positive. We then sent unopened sterile saline bottles to the laboratory and found that these tested negative. We realized that the sterile containers were probably contaminated with galactomannan which lead to the false-positive results.

This made us revise our strategy to send BAL galactomannan samples in the mucous extractor directly after collection through the bronroscope instead of the sterile container improving the results thereafter in our institute.

Fungal culture was negative in majority of the samples except Candida sp. in seven samples, Penicillium sp. and Aspergillus flavus in one sample each. The galactomannan levels in these culture-positive samples were not significantly higher than in culture-negative samples, attributing the false-positive reports likely due to the container used for collection and transport of these samples.

**Financial support and sponsorship**

Nil.

**Conflicts of interest**

There are no conflicts of interest.

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**REFERENCE**

1. D’Haese J, Theunissen K, Vermeulen E, Schoemans H, De Vlieger G, Lammertijn L, et al. Detection of galactomannan in bronchoalveolar lavage fluid samples of patients at risk for invasive pulmonary aspergillosis: Analytical and clinical validity. J Clin Microbiol 2012;50:1258-63.

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**How to cite this article:** Kathar SS, Mullerpattan J, Shetty A, Ududwadia ZF. Bronchoalveolar lavage contamination by sterile containers: A unique and unrecognized cause of a false-positive galactomannan. Lung India 2017;34:572-3.