

Session: 6. Fungal infection & Disease

Category: 6b. Diagnostic mycology (incl molecular)

### Lateral Flow Analysis Combined with Immunochromatography Analyzer for Aspergillosis Galactomannan Quantitative Detection

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**Background:** Now-days, Aspergillus galactomannan ELISA detection test is one useful method for aspergillosis diagnostic. However, due to the complexity of the ELISA test operation and the requirement for expensive instruments, its application is limited by the laboratory level. Thus, Genobio's introduced a small instrument named Immunochromatography Analyzer, suitable for the Aspergillus antigen lateral flow assay (LFA), could quantitatively read LFA qualitative results through the built-in standard curve, which make the invasive pulmonary aspergillosis diagnosis rapid, simple and quantitative.

**Method:** Patients with suspected pulmonary aspergillosis infection admitted to Ruijin hospital from February 2021 to August 2021 were selected for invasive pulmonary aspergillosis (IPA) and chronic pulmonary aspergillosis (CPA) diagnosis. GM antigen were detected by FungiXpert<sup>®</sup> Aspergillus Galactomannan Detection K-set (Lateral Flow Assay), at the same time Immunochromatography Analyzer were apply to get the quantitative results. Platelia Aspergillus Ag (Manufactured by Bio-Rad Laboratories) with microplate reader, the diagnostic value of each method for pulmonary aspergillosis was analyzed.

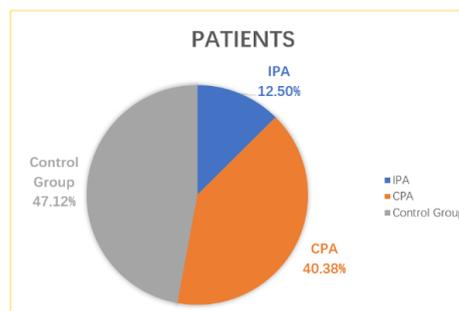


Figure 1

**Results:** Among the 104 patients, 13 patients (12.5%) were diagnosed with IPA, 42 patients (40.4%) were clinical diagnosed with CPA, and 49 patients (47.1%) were excluded from pulmonary aspergillosis, as control group (Figure 1). 55 were showed both positive by Platelia and FungiXpert<sup>®</sup>, 49 were showed both negative. The only 2 inconsistent samples showed positive with Platelia while FungiXpert<sup>®</sup> negative (Figure 2). Insert FungiXpert<sup>®</sup> LFA into Immunochromatography Analyzer, quantitative results also can be obtained, which showed GM antigen levels in the case group were significantly higher than those in the control group ( $P < 0.05$ ).

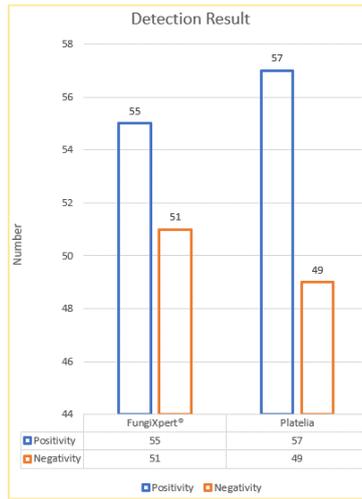


Figure 2

**Conclusions:** FungiXpert® exhibits high coincident results for serological diagnosis comparing with routinely-used Platelia EIA. And the use of Immunochromatography Analyzer allows LFA obtain quantitative results while qualitatively testing. This not only greatly enriches the results of Lateral Flow Assay, but also makes GM quantitative detection more convenient.