Online-Only Abstracts

Performance of two Aspergillus IgG EIA assays compared with the precipitin test in chronic and allergic aspergillosis

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Abstract

Detection of Aspergillus IgG antibodies is important in the diagnosis of chronic pulmonary aspergillosis and allergic bronchopulmonary aspergillosis. Immunoprecipitation techniques to detect these antibodies appear to lack sensitivity and accurate quantitation compared with enzyme immunoassays (EIA). This study assessed the performance of two commercial EIAs compared with counterimmunoelectrophoresis (CIE). This was a prospective cohort study of 175 adult patients with chronic or allergic pulmonary aspergillosis. Aspergillus IgG antibodies were detected using CIE, Phadia ImmunoCap Aspergillus IgG and Bio-Rad Platelia Aspergillus IgG. Inter-assay reproducibility was determined for each method and 25 patients had two serum samples analysed within a 6-month interval. When compared with CIE, both ImmunoCap and Platelia Aspergillus IgG had good sensitivity (97 and 93%, respectively) for detection of Aspergillus IgG antibodies. The level of agreement between the two EIAs for positive results was good, but the concentration of antibodies was not correlated between the tests or with CIE titre. ImmunoCap IgG inter-assay coefficient of variation was 5%, whereas Platelia IgG was 33%. Median ImmunoCap IgG values for CPA and allergic aspergillosis were 95 and 32 mg/L, respectively, whereas Platelia IgG values were >80 and 6 AU/mL. The direction of CIE titre change over 6 months was mirrored by ImmunoCap IgG levels in 92% of patients, and by Platelia IgG in 72% of patients. Both ImmunoCap and Platelia Aspergillus IgG EIAs are sensitive measures of Aspergillus IgG antibodies compared with CIE. However, ImmunoCap appears to have better reproducibility and may be more suitable for monitoring patient disease.

Fast and specific dermatophyte detection by automated DNA extraction and real-time PCR

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Abstract

The aim of this study was to develop and validate a rapid and sensitive real-time PCR method for detection of all known species of dermatophytes, including identification of *Trichophyton rubrum* and *Trichophyton interdigitale*. Fungal DNA was extracted directly from clinical samples by using a pre-lysis step, followed by automated DNA extraction on the MagNA Pure Compact. In total, 202 clinical samples were examined by both conventional culture and by the new PCR method. In 103 (51%) of the samples fungal nucleic acid was detected by PCR, while only 79 (39%) were found to be positive by culture. Out of 103 PCR-positive clinical samples, 94 (91%) were identified as *T. rubrum* and eight (8%) as *T. interdigitale*. This real-time PCR is far more sensitive and 2–4 weeks faster than conventional culture for detection of dermatophytes present in clinical samples.