

Respiratory infections

Diagnosis of invasive pulmonary aspergillosis

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Culturing strains from clinical samples is the main method to diagnose invasive pulmonary aspergillosis. Detecting galactomannan antigen in serum is an auxiliary examination. The study was to determine with what frequency *Aspergillus fumigatus* was cultured out of clinical samples taken from patients hospitalised in the Dzieciatko Jezus Clinical Hospital, Warsaw, Poland. Mycological and serological results were compared.

Materials and methods:

Clinical samples were cultured out of respiratory tract and blood for serological testing. Strain isolation was performed in chloramphenicol Sabouraud agar. Species identification based on morphological traits in macro-cultures and microscopic specimens. ELISA (BioRad) assays were used, following producer's guidelines, to detect galactomannan antigen.

Results:

Among 2000 clinical samples with positive mycological results, *A. fumigatus* was cultured in 13. Ten were cultured out of tracheal aspirates. Only one positive culture detected the galactomannan antigen. At the mean time, galactomannan antigen was detected in the serum in three patients, however, *A. fumigatus* was not cultured out of the samples taken from these patients.

Conclusions:

- Invasive pulmonary aspergillosis, confirmed by classical cultures, represented a very low percentage of cultures.
- *A. fumigatus* cultured from clinical samples could not always be confirmed with the ELISA assay.
- A positive ELISA result did not automatically mean the strain was automatically cultured out of the clinical sample.