

Pulmonary Aspergillosis Spectrum in COVID-19 Era

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Short Communication

It's still challenging to detect and treat invasive pulmonary aspergillosis (IPA). Prolonged neutropenia, hematopoietic stem cell or solid organ transplantation, inherited or acquired immunodeficiency, and the use of immunosuppressive drugs such as monoclonal antibodies and novel small molecules for cancer therapy are the most common risk factors.

Patients who are critically unwell are also at a significant risk of contracting IPA. There are no specific clinical indicators. An early computed tomography (CT) scan detects the two primary types of aspergillosis: angioinvasive and airway invasive. Although CT scan findings are not completely specific, they frequently allow treatment to begin before mycological confirmation.

It is discussed the role of ¹⁸F-fludeoxyglucose positron emission tomography in conjunction with computed tomography (¹⁸F-FDG PET/CT). Microscopy and culture of respiratory samples, histology in the case of biopsy, and, most significantly, the identification of *Aspergillus* galactomannan in serum and bronchoalveolar lavage fluid using an immunoassay are all used to confirm the diagnosis.

The detection of deoxyribonucleic acid by polymerase chain reaction is now standardised, which improves diagnosis yield. There are also two point-of-care assays that use a lateral flow assay to detect an *Aspergillus* glycoprotein. Mycological findings allow for classification as proved (regardless of underlying condition), probable or potential (for cancer patients and those with severe immunosuppression), or putati (for those with severe immunosuppression).

Over the last two decades, novel antifungal medicines have been produced, including azoles (voriconazole, posaconazole, isavuconazole), amphotericin B lipid formulations (liposomal amphotericin B, amphotericin B lipid complex), and echinocandins (caspofungin, micafungin, anidulafungin).

The findings of major trials evaluating these drugs in monotherapy or combination therapy, as well as recommendations for their use based on worldwide guidelines, are provided. New agents are currently being developed.

The traditional invasive aspergillosis risk factors were not present in these groups. Early diagnosis could be aided by fungus culture and galactomannan tests, particularly from respiratory specimens.

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