

A new test for a deadly fungal infection in patients with damaged immune systems

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A quicker, cheaper and more accurate test for deadly *Aspergillus fumigatus* fungal infections in patients with damaged or suppressed immune systems was described today, (Thursday 2 April) at the Society for General Microbiology meeting in Harrogate, by Dr Christopher Thornton from the University of Exeter, UK.

Fungal infections are a significant cause of death in patients whose immune systems are suppressed, for example those undergoing [bone marrow](#) transplantation or chemotherapy. Infection by breathing in the spores of the fungus *Aspergillus fumigatus* can cause invasive aspergillosis (IA) that can have a fatality rate approaching 90%. IA is very difficult to detect; doctors need to take tissue samples to see if the fungus is growing in the body. As this is often not possible in very sick patients, tests that detect signature molecules of the fungus in patient's serum are used. These existing tests are costly, and require expertise and sophisticated laboratory facilities to run. They also cannot distinguish between molecules from the *Aspergillus* fungus and similar molecules from antibiotics and foodstuffs, and even certain bacteria.

Dr Thornton and colleagues have developed a test for IA using technology similar to that used in home pregnancy tests. The test uses a monoclonal antibody that binds to a glycoprotein antigen secreted specifically by *Aspergillus* species. It does not give a reaction with any other clinically important fungi. It only takes 15 minutes to perform, making it quicker and less costly than conventional laboratory-based tests.

"Because our test is user-friendly it can be used to diagnose IA at the 'point-of-care' for patients, said Dr Thornton, "it can be used to provide routine monitoring of patients at high-risk for the disease, such as bone marrow transplant recipients and leukaemia patients. We are currently working with a multinational clinical diagnostics company to develop a commercial version of the device."

Source: Society for General Microbiology

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