
New Statement on the Treatment of Pulmonary Fungal Infections

The American Thoracic Society has released a new official clinical policy statement on the treatment of fungal infections in adult pulmonary and critical care patients. The statement replaces ATS guidelines published in 1988, and takes into account new medications and treatment approaches, as well as provides an overview of emerging fungi. The statement appears in the January 1, 2011, issue of the American Journal of Respiratory and Critical Care Medicine.

Pulmonary fungal infections occur commonly in patients whose immune systems are compromised, either by an underlying disease or illness or through the use of immune-suppressing medications, often prescribed following organ transplantation or to treatment for an autoimmune disorder, such as lupus or rheumatoid arthritis. The number of diagnosed pulmonary fungal infections has grown significantly in the past decade, and diagnostic methods and treatment options have also expanded, making the need for new guidelines especially critical. "The incidence, diagnosis, and clinical severity of pulmonary fungal infections have dramatically increased in recent years in response to a number of factors," said Andrew Limper, MD, Professor and Chair of Pulmonary Medicine at Mayo Clinic and Chair of the ATS Fungal Infections Working Group. "In addition to growing numbers of immune-compromised patients with HIV and other diseases, the number of patients receiving drugs to suppress the immune system following organ transplant or as the result of autoimmune inflammatory conditions has also increased."

Advances in diagnostic techniques, including the use of computed tomography (CT), positron emission tomography (PET) scans, bronchoscopy, mediastinoscopy and video-assisted thoroscopic biopsy, have also allowed physicians to accurately identify increasing numbers of pulmonary fungal infections, Dr. Limper noted. "At the same time, the introduction of new medications has significantly broadened the options that are available to the physicians who treat these patients," he said. "In view of all of these developments, the ATS convened a working group of experts in fungal infections to develop an expert yet concise guide to currently available therapeutic options for the treatment of the myriad fungal infections that are of particular relevance to pulmonary and critical care practice."

The new guidelines are the principal manuscript produced by the ATS Fungal Working Group, which met on multiple occasions over the past several years at ATS meetings held in San Francisco, Toronto and San Diego. In creating the new guidelines, group members reviewed journal articles and previously published guidelines and conducted a comprehensive evaluation of online databases to gather all relevant diagnostic and treatment data available. The statement represents a complete overhaul of the fungal treatment guidelines issued by the ATS in 1988. "The ATS' 1988 fungal treatment statement essentially only covered fungal infections in the HIV population," noted Dr. Limper. "Since then, multiple new drugs have become available. This new statement is a completely new document, generated de novo."

The document covers treatment recommendations for endemic fungal infections, including histoplasmosis, blastomycosis and coccidioidomycosis; infections which occur most frequently in immune-compromised and critically ill patients, such as cryptococcal and Pneumocystis infections; and a section on rare and emerging fungi, including diagnosis and treatment. These rare and emerging fungal infections pose significant risks for patients, particularly those with impaired host defense. The statement provides useful guidelines for the management of these disorders by the clinicians in pulmonary and critical care community, Dr. Limper noted. "We also cover infections with Candida and Aspergillus species, which are increasingly common in the environment of the intensive care unit," Dr. Limper said. "The specific recommendations are concisely organized and should be readily applicable to practice."

In addition to offering pulmonary and critical care practitioners and trainees up-to-date information about traditional antifungal agents, including amphotericin, itraconazole and fluconazole, the guidelines include recommendations for use of newer agents, including extended-spectrum triazoles and echinocandins, an entirely novel class of antifungal agents that act by inhibiting the formation of the cell walls of fungi. "The expanded availability of agents offer clinicians a broader range of treatment options, which is especially critical in treating some of the more recalcitrant infections," said Dr. Limper. "This statement offers recommended guidelines for the optimal use of these new and promising drugs."

Dr. Limper said the new fungal treatment statement will help guide clinicians in treatment of these infections today and may provide a jumping-off point for other fungal infections as they emerge. "The treatment of fungal infections has undergone tremendous change since the earlier ATS treatment guidelines were published in 1988," Dr. Limper said. "These new guidelines offer physicians a source of updated treatment recommendations backed by relevant clinical data, including the use of novel drugs and the treatment of emerging fungi."

The working group is considering future publication of a statement focusing solely on diagnosis of fungal infections. This publication would detail newer diagnostic methods including the roles of serologies, antigen testing, nucleic acid amplification methodologies and immune-detection strategies, as well as traditional microbiological techniques in the clinical diagnosis of fungal lung infections. The diagnostic guidelines would be designed to work hand-in-hand with this fungal statement to provide a comprehensive source for clinicians involved in the treatment of pulmonary and critical care fungal infections.

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Journal Reference:

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