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Mycoses Related to AIDS: Recent Progress and Priorities for the Future

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Introduction

Since 2003, more people have access to HIV testing and antiretroviral therapy (ART), which has led to a rapid drop in AIDS-related mortality. However, the difficulties of treating advanced HIV disease (defined by the World Health Organization as a CD4 count of 200 cells/l) have slowed this decline in recent years. In the first year after starting antiretroviral therapy (ART), people with advanced HIV disease have a higher risk of death and remain susceptible to opportunistic infections. Even though many people who are diagnosed with advanced HIV disease have never used antiretroviral therapy (ART), an increasing number of people are diagnosed after ART fails or after a prolonged absence from treatment. Since our previous meeting, cryptococcal meningitis and Pneumocystis jirovecii pneumonia (PCP) continue to be the leading AIDS-related causes of fungal infection-related mortality.

Description

This may increase the risk of developing advanced HIV disease. After tuberculosis, these infections are the leading cause of death, with the majority of cases occurring in sub-Saharan Africa. According to a recent systematic review, the prevalence of histoplasmosis among HIV-positive individuals in Latin America may be higher than that of tuberculosis. A retrospective cohort study found that among all AIDS-related complications, Talaromyces marneffei-related mortality was highest in Southern China. Morbidity from oral candidiasis continues to be prevalent. Emerging opportunistic fungi like Emergomyces africanus have been identified as a result of the highest HIV infection prevalence in the world, which can be traced back to South Africa. In South Africa, Candida auris is now responsible for 14% of cases of candidaemia. Patients who have candidaemia are also more likely to die from HIV. In his keynote address for the third workshop, Arunaloke Chakrabarti, president of the International Society for Human and Animal Mycology (ISHAM), identified and summarized key action points from the previous two AIDS-related mycoses workshops. As can be seen in the following summary, significant progress has been made in the field since the previous workshops [1].

Patients with advanced HIV disease in settings with limited resources continue to face a significant challenge in the form of fungal infections. The first AIDS-related Mycoses workshop was held in Cape Town in 2013 to raise awareness of the lack of resources available to us to address these challenges, promote discussion in the field, and address the unacceptablely high rate of morbidity and mortality. We recently held the third AIDS-related Mycoses workshop in light of the success of the second workshop in 2016, which highlighted promising progress in the field while also highlighting the challenges that remain. In 2019, we hosted 120 participants from five continents in Cape Town, South Africa, with full registration for the first time. In addition to highlighting the remarkable progress that has been made since the first workshop, we highlighted new and emerging challenges that healthcare professionals and researchers face in tackling these devastating diseases. The following were some of the major topics, which combined cutting-edge basic and clinical science, epidemiology, and public health: improving the diagnosis of AIDS-related mycoses, interactions between the host and the pathogen, the immunology of fungal infections, treatment options, drug resistance, and brand-new antifungal drugs and vaccines. An open discussion of the field's future directions marked the meeting's conclusion. The diagnostics field has made significant progress; This includes the simple cryptococcal antigen lateral-flow assay (CrAg LFA), which can be used in low-resource settings with little or no infrastructure and is highly effective. A Histoplasma antigen enzyme-linked immunosorbent assay (EIA) has recently been made available to a large number of nations. Additionally, the inclusion of some of the most important diagnostics for fungal infections on the World Health Organization's Model List of Essential in Vitro Diagnostics (EDL-2) is a tremendously encouraging step forward. In addition, the development of a new M1P1 antigen EIA for talaromycosis shows considerable promise and will hopefully be integrated into screening programs [2-5].

Conclusion

The structure of the paper is as follows: A description of the studied areas used for the empirical analysis follows this introductory section. The third segment offers a point by point depiction of the system utilized. The results are summarized in the fourth section, and the main conclusions are discussed in the final section. Policy and guidelines have changed significantly as a result of recent clinical trials. For instance, a change in policy regarding the treatment of cryptococcal meningitis has already been influenced by the ACTA trial. Amphotericin B plus flucytosine for one week and fluconazole plus flucytosine for two weeks were found to be effective induction treatment regimens in settings with limited resources in this study. At the workshop, a summary of the AMBITION-CM trial, which will build on the ACTA trial, was presented. The current, based on ACTA, World Health Organization-recommended regimen of a seven-day course of amphotericin B deoxycholate and flucytosine is compared to the efficacy of single high-dose liposomal-amphotericin B and high-dose fluconazole and flucytosine. David

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Boulware discussed the ACACIA trial, which is currently randomly assigning participants with cryptococcal antigenaemia to receive either liposomal amphotericin B plus fluconazole or fluconazole alone, and the proposed use of fosmanogepix or oral amphotericin B for the treatment of cryptococcosis in a novel design. Trials to improve treatment for people with cryptococcal antigenaemia who have been identified by extensive screening programs in many more nations are clearly needed. The need for a trial comparing the oral combination of fluconazole and flucytosine to the current standard of fluconazole alone was emphasized in light of the evidence for failures on fluconazole in this patient group. The attendees of the meeting noted that there are currently no trials focusing on Talaromyces infection and that this needs to change in the future.

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