ISHAM WORKING GROUP
APPLICATION FORM

Name of the proposed the Working Group
AIDS-related Mycoses Working Group

Name(s) of coordinator(s), including title, proposing the working group
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Dr. Nelesh Govender
Dr. Graeme Meintjes
Dr. Andrew Limper
Dr. Kirsten Nielsen
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Names and contact information of working group members including addresses, telephone numbers and email addresses.

see attached list

Please provide a brief description (500-1000 words) of the working group, including its objectives and expected outcomes, with a timeline as to when the outcomes will be met

During discussions held at the EMBO-workshop on AIDS-related mycoses, held in Cape Town in July 2013, the attendees agreed that we needed to establish a working group in AIDS-related mycoses to help address the priority areas that were identified at this meeting, as outlined in our position statement copied below (and to be published in Trends in Microbiology). The primary objectives of this working group are to:

1) promote interactions between scientists and clinicians working in the field of AIDS-related mycoses
2) maintain the momentum of the action plan developed at the 2013 EMBO-workshop on AIDS-related mycoses (detailed below)
3) lobby various agencies to increase funding for research and treatment of AIDS-related fungal infections

Position Statement from the AIDS-related mycoses meeting held in Cape Town, July 2013

(signed by all attendees)

Fungi are often harmless in the context of normal host responses, but immune deficiencies, particularly in HIV-positive patients, result in significantly increased susceptibility to many fungal infections. The global defects in immune function resulting from HIV infection, in particular, causes susceptibility to several mucosal and life-threatening fungal diseases with pathogens such as Candida, Cryptococcus and Pneumocystis. For example, it has been estimated that HIV/AIDS results in nearly 10 million cases of oral thrush and 2 million cases of oesophageal fungal infections annually. Of even greater concern is the high mortality associated with invasive fungal infections, which often exceeds 50%, despite the availability of antifungal drugs. For example, the U.S. Centers for Disease Control and Prevention (CDC) have estimated that there are approximately 1,000,000 cases of cryptococcal meningitis globally every year in patients with HIV/AIDS with over 500,000 related deaths in sub-Saharan Africa in 2008. Although the accuracy of mortality estimates may be questionable, it is likely that fungal infections collectively kill about one and a half million people every year. Thus, it is possible that at least as many people die from fungal diseases as tuberculosis (see http://www.who.int/mediacentre/factsheets/fs104/en/) or malaria (see http://www.who.int/mediacentre/factsheets/fs094/en/). Despite the huge burden and high mortality rates of fungal infections in HIV-infected patients these diseases remain understudied and under-diagnosed compared with other infectious diseases.

To address this burgeoning problem, over 80 participants from all over the world gathered for three days in July 2013 in Cape Town, South Africa, for a meeting on AIDS-related mycoses. Plenary presentations at this conference covered topics including the effect of HIV/AIDS on antifungal immunity, current limitations in diagnosis of these infections (particularly Pneumocystis in resource-limited settings), the epidemiology, surveillance and public health aspects of these infections, the fungal diseases (both from the host and pathogen perspective, including sessions on Candida, Pneumocystis, Cryptococcus and other fungi), pathogenesis of fungal-related immune reconstitution inflammatory syndrome, and treatment options and the way forward (see the review in this issue by Armstrong-James et al for more details on each of these topics). Considerable time was given to goal-directed general discussion during this meeting and six priorities for the immediate future were reached by consensus of all participants. These include:

1. Better epidemiological surveillance is needed, as accurate estimates are unavailable for invasive fungal infections in HIV-infected patients globally.

2. There is a pressing need for better laboratory and point-of-care diagnostics and better availability of existing diagnostics for many fungal diseases. This is particularly true for Pneumocystis jirovecii pneumonia, for which the diagnostics available have limited sensitivity and availability (see www.gaffi.org/wp-content/uploads/Pneumocystis-pneumonia-Fact-Sheet.pdf). Diagnostics need to be inexpensive, accessible and simple for use in developing countries, such as the dipstick immunochromatographic test currently in use for cryptococcal meningitis and screening for antigenaemia prior to the development of meningitis. Better diagnostics would facilitate aim (1).

3. We need better availability of existing drugs, particularly for Cryptococcus. Initial combination therapy with amphotericin B and flucytosine was recently shown to improve outcomes for cryptococcal meningitis, yet these drugs (especially flucytosine) are not readily available in many low and middle-income countries, particularly in Africa, where there are high rates of mortality. These drugs need to be administered for 2 weeks followed by fluconazole consolidation. Antiretroviral therapy (ART) should be started 4-6 weeks after commencing antifungal therapy, to minimize the risk of mortality observed in recent trials of early introduction of ART.

4. More training in medical mycology (detection, diagnosis and treatment) is needed, particularly in resource-limited settings where expertise and facilities for fungal identification are lacking. Access to relevant equipment is also required. An example is the benefit in reducing intracranial pressure during cryptococcal meningitis by lumbar puncture, yet the equipment required to measure intracranial pressure, e.g. a manometer, and relevant training in its use are lacking in most developing countries where this disease is endemic.

5. We need to stimulate funding in this area. Despite the global burden, only 2% -2.5% of infectious disease research budgets of the major funders in the UK and USA are targeted at human fungal infections. There is an urgent need, in particular, for funding to implement programs aimed at

better diagnosis, treatment and surveillance of cryptococcosis in sub-Saharan Africa. Such programs could save tens of thousands of lives annually. In addition to lobbying traditional funding agencies, we propose to:

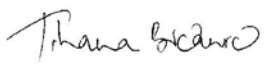
i. Approach private philanthropic foundations.
ii. Submit a multi-European group application that focuses on critical issues in fungal diseases encountered in the developed and developing world.

6. Maintain momentum within this field by establishing a working group on AIDS-related mycoses under the International Society for Human and Animal Mycology (ISHAM), hold a working group meeting at the ISHAM meeting in Melbourne in May 2015, and a second workshop on AIDS-related mycoses in Cape Town in 2016.

Please describe the Working Group's first year operations

1. Establish a webpage for the AIDS-related mycoses ISHAM working group
2. Establish and expand an email list for the AIDS-related mycoses ISHAM working group members
3. Start planning and fundraising for a satellite symposium on AIDS-related Mycoses at the ISHAM 2015 Congress.
4. Discuss the procedure and targets for establishing lobby groups to approach private philanthropic and other funding organisations for the support needed to address the priority areas outlined above.

Signature of the coordinator(s) – NOTE – electronic signatures are acceptable and only one of the coordinators needs to sign the document:



Date: 19 January 2014