Researchers help develop new antifungal drug

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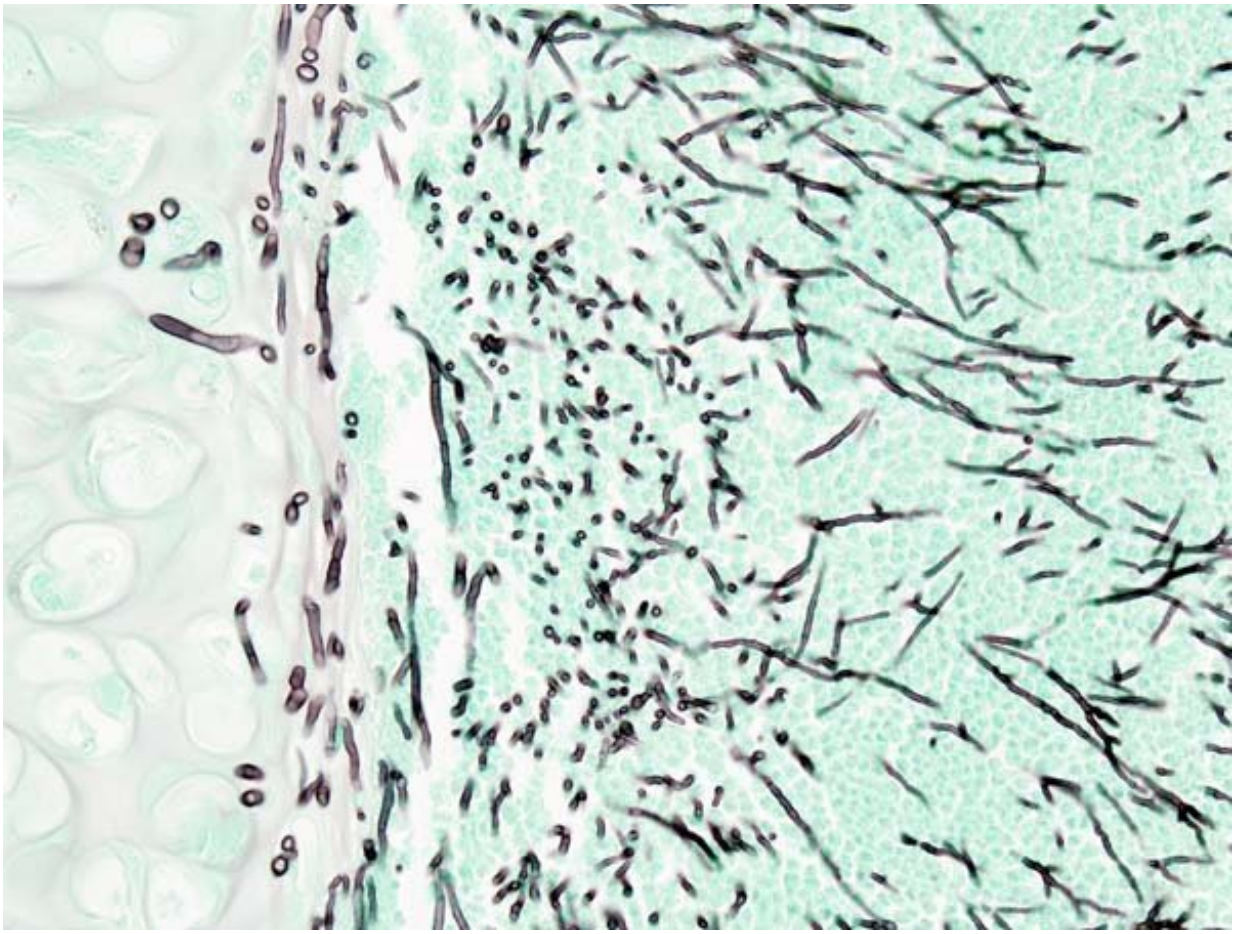

Aspergillosis. Credit: Wikipedia

University of Liverpool researchers, working with F2G Limited (Eccles,

Manchester), have developed a new antifungal drug to help in the treatment of life threatening invasive fungal infections such as invasive *aspergillosis*.

Invasive fungal infections are common and often lethal. Despite optimal medical care mortality is 20-30% at six weeks and dramatically rises to 80-100% for drug resistant infection.

These infections occur most commonly in the context of leukemia and bone marrow transplantation and often in young patients with otherwise curable disease.

Orotomides

The researchers, led by Professor William Hope from the University's Antimicrobial Pharmacodynamics and Therapeutics (APT) Group, have characterised the biochemical and physiologic effects (pharmacodynamics) of F901318, which is the lead compound of the new class of drugs termed the 'orotomides'.

The 'orotomides', discovered by F2G Limited, have a novel mechanism of action which is the specific biochemical interaction through which a drug substance produces its pharmacological effect.

This is the first new class of antifungal agent to be discovered in the last three decades.

The study, which was supported by a research grant by F2G, has been published in *mBio*.

Clinical studies

APT's work provides the underpinning evidence for efficacy and dosage justification for the very first patients receiving the new drug. Such information is required by regulatory agencies such as the European Medicines Agency and the Food and Drug Administration before clinical studies can proceed.

Professor Hope, said: "Antifungal resistance represents a major global clinical challenge. This study provides the necessary information to enable F901318 to be developed for clinical use."

More information: William W. Hope et al, Pharmacodynamics of the Orotomides against Aspergillus fumigatus : New Opportunities for Treatment of Multidrug-Resistant Fungal Disease, *mBio* (2017). DOI: 10.1128/mBio.01157-17

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