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Press release

New antifungal drugs profiled at Manchester fungal disease conference

Researchers gathered in Manchester for the Advances Against Aspergillosis international conference had the first glimpse about new antifungal agents. Problems with toxicity and resistance limit treatment options currently for the millions of patients worldwide who need antifungal therapy each year.

Three new antifungals were profiled: CD101 from Cidara Therapeutics in San Diego, F901318 from F2G in Manchester and PC945 from Pulmocide in London, as well as earlier stage peptides and new antifungal targets.

Dr Kasuhiro Ito from Pulmocide, working with researchers at Chiba University, Japan, demonstrated that inhaled PC945 was highly effective in early therapy of life-threatening invasive aspergillosis in mice. The compound is a novel azole with activity about 100-fold more against *Aspergillus fumigatus* than voriconazole, the leading treatment currently. PC945 also reduced inflammation in the lung. PC945 represents the first of a new generation of inhaled antifungals, primarily for fungal asthma, cystic fibrosis and prevention of invasive aspergillosis. Clinical studies of aerosolized PC945 are likely to commence in early 2017.

Dr Nicola Beckman from F2G presented work on the novel compound F901318 and its activity against resistant fungi. F901318 compound is an orotomide, with a new mechanism of action disclosed at ICAAC in September 2015. It is highly active against pan-azole resistant *Aspergillus fumigatus*, other *Aspergillus* species and multi-resistant and currently untreatable *Scedosporium* spp. With the rise in azole resistance across the world (also profiled at the conference), a new class of antifungal is clinically required. Clinical studies of intravenous and oral F901318 are likely to commence in late 2016.

Dr Lynn Miesel presented the efficacy of Cidara Therapeutics' CD101, a novel long acting echinocandin, against invasive aspergillosis. CD101 was highly effective, similar to amphotericin B, in this survival experiment. CD101 will be an intravenous antifungal, with the potential for higher drug exposures than currently marketed echinocandins and once weekly treatment, enabling inpatient and outpatient use and earlier hospital discharge. Clinical studies of CD101 are scheduled to start in the first half of 2016. CD101 has received QIDP, Fast Track and Orphan Drug Designation from the FDA for the treatment of candidemia and invasive candidiasis.

Conference Chairman Professor David Denning of the University of Manchester and the National Aspergillosis Centre at the University Hospital of South Manchester remarked: "This broad pipeline of antifungals is really welcome. Our clinics have many too many untreatable patients, deteriorating and really unwell. My global clinical colleagues and I were really excited to hear about these many development programs and the demonstration of real activity in tough tests of antifungal activity."

The last new class of antifungal was launched in 2002 – the echinocandins caspofungin and micafungin. The last time a new class of oral antifungal was launched was the azoles – in 1985 with the launch of the now withdrawn ketoconazole. A new azole antifungal isavuconazole (Basilea Pharmaceutica) was launched in 2015. There are no licensed aerosolized antifungals.

Notes for editors:
The Advances Against Aspergillosis conference has attracted 350 physicians and researchers from 33 countries to Manchester for 3 days of research, medical management and policy discussions. Scholarships were offered to 47 researchers.

http://pulmocide.com/
http://www.f2g.com/
http://www.cidara.com/

The UK National Aspergillosis Centre (NAC) is based at the University Hospital of South Manchester. The NAC is commissioned by the Department of Health to provide long term care for patients with chronic pulmonary aspergillosis, and provides diagnostic services for patients with all fungal infections, including invasive aspergillosis and mucormycosis.

Aspergillosis is the name given to a wide variety of diseases caused by the airborne fungus *Aspergillus*. Common *Aspergillus* infections include invasive aspergillosis, allergic bronchopulmonary aspergillosis, chronic pulmonary aspergillosis and aspergilloma. Less common infections include sinus infections, keratitis (front of eye), toenail and otitis (external ear canal).
http://www.advancesagainstaspergillosis.org/2016/index.htm

More information can be found at www.aspergillus.org.uk and www.LIFE-Worldwide.org