
# LIFE Worldwide: Leading International Fungal Education

Fungal Infection Trust

April 2018

## News roundup

### *Microsporidia* is an underdiagnosed cause of eye infections

*Microsporidia* are close relatives of fungi that form Gram-positive spores. They cause a minority of eye infections (keratoconjunctivitis or stromal keratitis), but cases are frequently misdiagnosed as atypical adenoviral keratoconjunctivitis. Upon slit lamp examination a greyish-white coarse diffuse superficial punctate keratitis is seen, generally in one eye only. The lesions are larger than that seen for viral disease and can be removed by debridement.

Dr Rohan Agashe and colleagues published a 3-year retrospective case series on 550 patients at an eye hospital in Tamil Nadu (South India). Of all conjunctivitis patients, just over 5% tested positive for *Microsporidia* upon Gram smear. Most patients had no obvious risk factors, apart from a minority who recalled having dust (12.7%) or an insect (2.4%) fall into the eye, and none used contact lenses. Cases were more likely during the monsoon season. Good results were obtained by treating with 0.3% fluconazole eye drops, with >95% of patients reporting no loss of visual acuity.

➨ Read it now: Agashe et al (2018) Br J Ophthalmol

### Distinct radiological signs of cerebral aspergillosis in immunocompetent patients

A high index of suspicion for CNS aspergillosis should be maintained in the immunocompetent patient with a brain mass, especially in the presence of concomitant sinus disease, although the hallmark radiological characteristics are different to those seen among immunocompromised patients.

A recent retrospective case series by Kumar and colleagues focused on the radiological findings of 8 patients with histologically-confirmed CNS aspergillosis. Six patients had concomitant sinonasal disease. All masses were hypointense on CT scans. Lesions were hypointense on T2-weighted MRI scans in 7 patients, and showed bright homogenous enhancement in 7 patients.

➨ Read it now: Kumar et al (2017) J Neuroradiol

## Fluconazole plus flucytosine an alternative to amphotericin B for cryptococcal meningitis

Antifungal drugs are unavailable in some healthcare systems, either due to cost or because the drug is simply not licensed in that country. Fluconazole monotherapy is sometimes used instead of amphotericin B for cryptococcal meningitis, but this gives slower fungal clearance.

The results of the phase 3 open-label ACTA study were recently published in the New England Journal of Medicine. A shortened induction phase of 1 week of amphotericin B (rather than the usual 2 weeks) plus flucytosine was noninferior to 2 weeks of amphotericin B in terms of mortality. They also show that the combination of oral fluconazole plus flucytosine can be used if amphotericin B is not available.

➨ Read it now: Molloy et al (2018) N Engl J Med

# Story in full

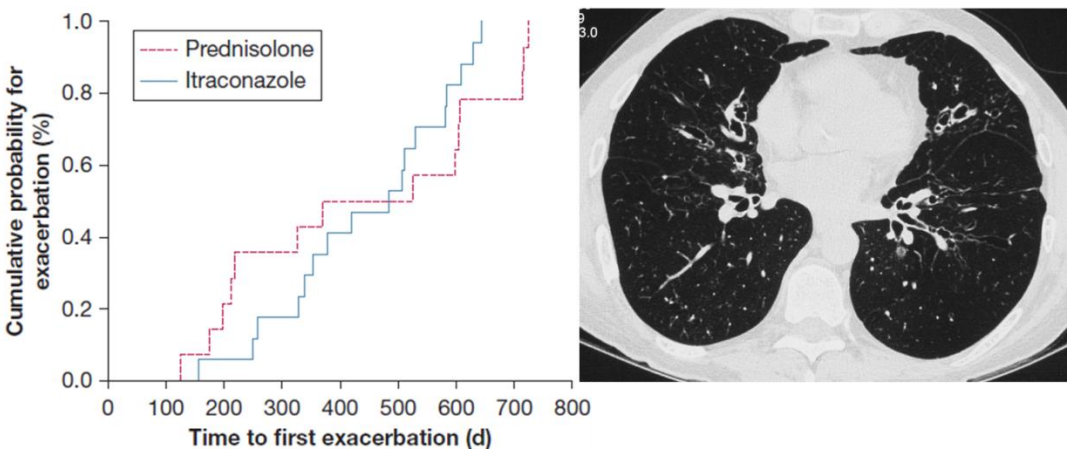
## First RCT directly comparing itraconazole with prednisolone for acute ABPA

Guidelines have traditionally recommended glucocorticoids for first-line treatment of ABPA, but an RCT conducted in India (N=131) suggests itraconazole monotherapy could be a useful alternative to prednisolone, and has a lower burden of side effects. However, it is important to closely monitor patients treated with itraconazole as around 12% do not respond to this treatment.

Allergic bronchopulmonary aspergillosis (ABPA) is an immune reaction against colonisation of the lungs by *Aspergillus fumigatus*. The global burden is thought to be around 5 million, with 1.4 million cases in India alone. Early diagnosis is essential to prevent progression to bronchiectasis and pulmonary fibrosis.

Dr Ritesh Agarwal and colleagues at PGIMER (Chandigarh, India) conducted an open-label randomised controlled trial comparing oral itraconazole (n=68) against prednisolone (n=63) as a first-line treatment in acute ABPA. All (100%) patients taking prednisolone achieved a treatment response, while 88% of patients on itraconazole did so; there were no obvious characteristics in common between non-responders. Itraconazole was not associated with many of the Cushingoid side effects that glucocorticoids are notorious for, although elevated ASTs/ALTs were seen in more itraconazole patients (15%) than prednisolone patients (0%).

Overall, these results suggest that itraconazole makes a good alternative for patients who cannot tolerate glucocorticoids (e.g. those with uncontrolled diabetes, obesity or osteoporosis), but treatment must be monitored as around 12% of patients will not respond.




➨ Read it now: Agarwal *et al* (2018) A Randomized Trial of Itraconazole vs Prednisolone in Acute-Stage Allergic Bronchopulmonary Aspergillosis Complicating Asthma. Chest.

## Diagnostic tip: Galactomannan ELISA testing

Galactomannan is a fungal cell wall antigen that is shed into the bloodstream during infections with *Histoplasma*, *Aspergillus* or *Talaromyces* (formerly *Penicillium*) *marneffei*; therefore, other clinical features must be used to differentiate between them. Commercial ELISA-based kits are available from IMMY, Platelia (Bio-Rad) and MiraVista.

- Performance of the Platelia assay was measured by Iriart *et al* (2014) among AIDS patients in French Guiana, where *Histoplasma capsulatum* is endemic. A cutoff OD of 0.4 yielded a sensitivity of 82% and specificity of 100%.
- Performance of the Platelia assay was also evaluated by Zheng *et al* (2015) for detecting talaromycosis among AIDS patients in non-endemic regions of China. A cutoff of 1.0 yielded a sensitivity of 96% and specificity of 91%.

Note that azole prophylaxis can reduce the sensitivity, and some *Aspergillus* isolates are poor producers.

➨ Read more about galactomannan testing

## Section in the spotlight: Guidelines

You may have spotted the changes we made to our guidelines section earlier this month. As well as updating and adding lots of links, the format has been changed to make it easier and less data-hungry to view on mobile devices.

Where formal guidelines are not available, we try to include one or two up-to-date reviews that give recommendations. If there are any other links you'd like to see included, please let us know.

➨ Go there now

## Courses

- 5-day course on Infectious Diseases in Adults at Harvard Medical School, Boston (30 April-4 May 2018).
- Spanish-language 2-year postgraduate course in Medical Mycology at the INHRR in Venezuela.
- A 6-day course entitled 6th Central European Summer Course on Mycology: Biology of Pathogenic Fungi and the 3rd Rising Stars in Mycology Workshop will be held in Szeged, Hungary between 6-11th June 2018.
- Molecular Mycology (MOMY): Current Approaches to Fungal Pathogenesis (Woods Hole, Massachusetts; 30 July-15 Aug).

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| MICROFUNGI .NET | The English-language version of the final module of our Moodle-based online course on fungal histology and microscopy has now been released at Microfungi.net Organized in partnership between the Fungal Infection Trust and the University of Manchester, this is the only free online university-accredited course currently available. **Module 4: identification of rare fungi and histology of unusual tissue reactions to infection** |

## Conferences

- ASM Microbe 2018 (Atlanta GA; 7-11 June)
- ISHAM Congress (Amsterdam; 30 June-4 July), followed by ISHAM Working Groups on Black Yeasts and Chromoblastomycosis (Utrecht; 5-6 July 2018)
- MSGERC (Big Sky, MT; 25-28 Sep) (call for abstracts deadline is 30 April)

## Featured LIFE video

### Cryptococcal IRIS

Our YouTube channel now has a video lecture by Dr Tihana Bicanic (St George's, University of London) on immune reconstitution inflammatory syndrome (IRIS), particularly in relation to cryptococcal meningitis. The lecture covers predictors, prevention, manifestation and management of IRIS, as well as the differences between unmasking and paradoxical IRIS.

**Watch it now**

## Really important review

### *Emergomyces*

*Emergomyces* is a genus of dimorphic fungi that typically cause disseminated mycosis with widespread cutaneous lesions and often pulmonary involvement.
*E. africanus* is endemic in South Africa and causes disease particularly among HIV+ patients, often following initiation of antiretroviral therapy (unmasking IRIS).
Dr Ilan Schwartz and colleagues review the epidemiology, ecology, diagnosis, prevention and management of this group.

**Read it now**

## New book

### Practical guide and atlas for the diagnosis of fungal infections

A free e-book written by Afia Zafar, Kauser Jabeen and Joveria Faroogi (Aga Khan University, Pakistan), aimed particularly at clinical laboratory technologists and clinicians in resource-limited settings. Packed with informative images of cultures, microscopy, radiography and clinical photographs, this book is a fantastic reference manual for any diagnostics service wishing to expand their capabilities. Detailed step by step instructions are provided for everything from specimen collection to laboratory safety.
ISBN 978-969-8073-34-3

**Download it now**

## Notices

- Please click here to take the LIFE Worldwide **therapeutic drug monitoring survey** (takes up to 10 minutes).
- Marcus Teixera is **looking for Histoplasma clinical isolates** to add to the Histo 1000 Genomes Project. If you might be able to provide some, please get in touch with him.

LEADING INTERNATIONAL FUNGAL EDUCATION

**LIFE Worldwide**

**Fungal Infection Trust**
**PO Box 482**
**Macclesfield**
**Cheshire, SK10 9AR**
**United Kingdom**

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