

## Proffered Oral

### PO1

#### Histoplasmosis in Israeli Travelers

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Histoplasmosis is one of the more common endemic human mycoses. The majority of infections are acquired in the Americas. We report 23 cases of histoplasmosis in Israeli travelers. All traveled to endemic areas; 22 to Latin America, one to North America. Fourteen cases had visited bat habitats, including 9 who visited a specific cave infested by bats in Lanquin, Guatemala. Fourteen of the 23 patients were symptomatic; all presented within 3 months of their return from Latin America. The majority had respiratory symptoms; however 28% presented with prolonged febrile illness only.

Asymptomatic patients were diagnosed during the evaluation of incidental radiological findings or because a travel partner had been suspected of *Histoplasma* infection. These patients were diagnosed 16–120 months after their return from the endemic region.

Serological testing was positive in 75% of symptomatic cases but only 22% of asymptomatic cases.

Histoplasmosis should be considered in travelers returning from Central or South America with respiratory or febrile illness within weeks of return, particularly if exposed to bat habitats. Serological and urinary antigen testing are useful for diagnosis of "early" presenters but wane over time, and thus are of limited utility in late presenters. Evaluation of travel partners may be a useful adjunct in the returning traveler suspected of having current or healed histoplasmosis. The histoplasmin skin test, if available, may be of use when attempting to diagnose histoplasmosis in non-endemic areas.

### PO2

#### Occupational Exposure to *Aspergillus* spp. in Poultry and Swine Feed Production

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Workers from feed production often develop allergic respiratory symptoms and fungi, are likely to be a significant contributing factor to these symptoms. This study intended to characterize fungal contamination in two feed production units, one for poultry and other for swine consumption. We aimed at identifying which unit presented the highest risk of occupational exposure to *Aspergillus* spp. Twelve air and twelve surfaces' samples were collected from the two studied units through impaction and swabbing methods, respectively. After laboratory processing and incubation of the collected samples, quantitative and qualitative results were obtained, with the identification of the isolated fungal species. For molecular analysis, 300L of air were also collected from each same sampling site using the impinger method. Real Time PCR (RT-PCR) was done to perform the molecular detection of the *Aspergillus* sections *Fumigati* and *Flavi* (only the toxigenic strains). In the poultry feed production isolates belonging to the *Aspergillus fumigatus* species-complex (section *Fumigati*) were the most abundant in air (46.6%). In the swine feed production no isolate from *Aspergillus* genus was collected. Regarding

the results obtained through molecular methods, *A. fumigatus* complex was detected in one sampling site in poultry feed production and in two sampling sites in swine feed production where this species-complex was not isolated by conventional methods. Altogether, the results we obtained with cultural methods showed that feed production on poultry was the setting where the highest number of isolates belonging to *Aspergillus* spp was found. Importantly, the molecular tools applied during this study enabled to target selected fungal indicators, allowing a more precise characterization of the *Aspergillus* spp. occupational burden in these settings.

### PO3

#### The Fungi: Silent Neighbors or Hidden Threat?

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**Introduction** The pathogenesis of fungal rhinosinusitis/FRS was widely investigated but the relationship of the fungal presence in environment and development of FRS is not yet revealed. We evaluated the relationship of the presence of fungi on sinonasal mucosa with fungal presence in home air of patients with their clinical characteristics.

**Material and methods** The prospective study with 136 patients with chronic rhinosinusitis/CRS was conducted in the National Reference Medical Mycology Laboratory, Faculty of Medicine, University of Belgrade. Study design included: 1) anamnesis data; 2) measurements of molds specific IgE/sIgE and total IgE Ab, absolute eosinophil/EO count and skin prick test; 3) rhinologic and CT observation; 4) mycological finding of sinonasal nasal aspirate and 5) air sampling from the patient's bedroom.

**Results** (i) 30.4% patients with positive molds sIgE Ab had severe forms of CRS with more often presence of NP ( $p=0.025$ ); (ii) 46.4% of patients with positive sIgE Ab had positive fungal finding on nasal mucosa; (iii) in Serbia the prevalence is 1.3% for allergic FRS/AFRS and 2.8% for FRS; (iv) patients with AFRS had more frequent asthma ( $p=0.024$ ) and CRS lasting more than 10 years ( $p=0.000$ ); (v) 225 fungus was found in air samples, the most common were *A. niger* (57%) and *Penicillium* sp.(26%).

**Conclusion** Huge amount of fungal spore in the air of patient's living area should be threat for development of FRS in predisposing patients. Next studies should clarify the mechanism by which airborne fungi turn from 'normal flora' into triggers of immunological reactions, resulting in FRS.

### PO4

#### Production of Echinocandins by *Fusarium* MS-R1

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Fungal infections, especially candidiasis, are on the rise in human populations, leading to a continuous search for novel potential chemicals in order to expand the range of drugs. Filamentous fungi are important sources of bioactive secondary metabolites, many of which are used in medicine. This includes production of anti-fungal metabolites that are used to treat human and animal fungal infections.

# mycoses

## Diagnosis, Therapy and Prophylaxis of Fungal Diseases

Official Publication of Deutschsprachige Mykologische Gesellschaft  
Official Journal of the European Confederation of Medical Mycology

VOLUME 59

FEBRUARY 2016

SUPPLEMENT 1



### ABSTRACTS

European Confederation of Medical Mycology



Confédération Européenne de Mycologie Médicale

### Abstracts of the 4th European Confederation of Medical Mycology Educational Symposium

14–16 February 2016, Tel Aviv, Israel

**Ecology & Mycology: From the Environment to the Patient's Bed**  
**Organized by the Israel Society for Medical Mycology (ISMM)**

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