

nature of spore trap categories will facilitate interpretation and direct investigators to, perhaps, reinvestigate sites where the complexity of the report categories could lead to errors of interpretation

Lessons learned: Spore trap categories reported by analytical laboratories rarely represent fungal species, but rather groups of species belonging to related families or even to completely unrelated classes of fungi. Understanding this complexity will aid in the interpretation of spore trap reports.

SR-114-03

Airborne Endotoxin and Asthma and Allergy in Elementary School Age Children: A Case-Control Study

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Objective: The objective of this study is to evaluate the association between the presence of asthma and allergy sensitization, and airborne endotoxin in homes of school age children in Kaohsiung City, Taiwan.

Methods: We conducted this study using a case-control study design from a general population of children by matching age and class exposure. Data collection of home visits included an interviewer administered questionnaire, air sampling of participants' homes for endotoxin, bacteria and fungi, as well as temperature and relative humidity measurements. Airborne endotoxin was collected on filters with a sampling time of 24 hours. The houses of each case-control pair were visited within one week to ensure the similarity of the ambient environment. Questionnaires were administered to record housing characteristics. SAS statistical package (version 9.3) was used for data analyses.

Results: Endotoxin was detected in all air samples with a mean value of 1.45 ± 1.67 EU/m³. In both the univariate and multivariate analyses, incense burning was consistently associated with increased concentrations of airborne endotoxin in the bedroom, while air fresheners and dehumidifiers were associated with decreased concentrations of airborne endotoxin. We observed that higher airborne endotoxin concentrations increased the risk of asthma/allergy. In addition, interquartile range increases of airborne endotoxin were significantly associated with asthma/allergy status (OR= 3.83).

Conclusions: Airborne endotoxin was significantly associated with asthma/allergy status. Reduced incense burning, and using air fresheners and dehumidifiers, may decrease airborne endotoxin in homes.

SR-114-04

IgE Antibodies to Fungi Among Asthmatic Children Living in Homes Damaged by Hurricane Sandy in New York City

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Objective: In New York City (NYC), domestic mold contamination has been a public health concern and the most common residential complaint following Hurricane Sandy (HS). The objective of this research was to determine the susceptibility of asthmatic children to adverse health effects from fungal exposures following catastrophic water damage.

Methods: Asthmatic children (n=58) living in homes damaged by HS were recruited (ages 6-15 years). Dust was collected from homes and serum from children 16-33 months after HS. Bedroom floor dust was analyzed by quantitative polymerase chain reaction for 36 fungi (Environmental Relative Moldiness Index panel) and compared to results from non-damaged homes (NYC Neighborhood Asthma and Allergy Study, n=347). IgE was measured by CAP (ThermoFisher, >0.1 IU/ml considered positive) to common fungi and those selected based on fungi detected in HS-damaged home dust.

Results: As compared to non-damaged homes, significantly (P<0.05) more Hurricane Sandy damaged homes had measurable *Acremonium strictum*, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus penicillioides*, *Cladosporium cladosporioides*, *Epicoccum nigrum*, *Mucor amphibiorum*, *Penicillium purpurogenum*, and *Scopulariopsis brevicaulis*. Nearly all homes (damaged and non-damaged) had detectable levels of *Aureobasidium pullulans* and *Cladosporium herbarum*. Many (50%) of the children in HS damaged homes had measurable IgE to at least one of the fungi tested, most commonly, *Alternaria alternata* (36%), *Candida albicans* (22%), *Aureobasidium pullulans* (19%), *Aspergillus fumigatus* (17%), *Helminthosporium halodes* (17%) and *Mucor racemosus* (17%).

Conclusions: Among asthmatic children living in NYC homes damaged by HS, sensitization to fungi was common, including to some species that were higher in HS-damaged homes. The ongoing analysis of fungal sensitization and effects on asthma morbidity will further characterize the impacts of Hurricane Sandy on this population.

SR-114-05

Aspergillus Section *Petersonii* Sect. Nov. Encompassing Indoor and Soil-borne Species with Predominant Tropical Distribution

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Objective: During mold surveys, a number of *Aspergillus* strains were isolated from the environment which did not fit any known species or genus. Phenotypic examination of these isolates showed that they were very similar but differed in some growth characteristics. Multilocus DNA sequence data was obtained for the new isolates and some related species in the broader, more inclusive clade.

Methods: Fungal isolates were collected mainly from homes and offices. To describe the species, we used phenotypes from 14 day Czapek yeast extract agar, CYA with 20 % sucrose, malt

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