

European Respiratory Society Annual Congress 2013

Abstract Number: 1489

Publication Number: P993

Abstract Group: 6.2. Occupational and Environmental Health

Keyword 1: Allergy **Keyword 2:** Asthma - diagnosis **Keyword 3:** Occupation

Title: Medical surveillance of workers exposed to mites and moths in a biological pesticides plant

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Body: Introduction: Several workers in a biological pesticide plant reported allergic symptoms to mites and moths. This study was performed to investigate exposure, sensitization and respiratory allergy in exposed workers. Methods: surveillance included semi-quantitative exposure assessment, a questionnaire on allergic symptoms and asthma, lung function, methacholine challenge testing and blood sampling to test serological sensitization to common and occupational allergens. For that purpose immunoassays were developed using purified material from the following mites and moths as provided by the company: Amblyseius Cucumeris, Amblyseius Swirskii, Hypoaspis Miles, Tyrophagus Putrescentiae, Carpoglyphus Lactis, Lepidoglyphus Destructor and Neoseiulus Californicus and the moth Ephestia kuehniella (both eggs and wing material). Results: 140 workers participated in the study, of whom 82 (59%) reported allergic symptoms and 38 (27%) job related allergic symptoms. Atopy was found in 46 workers (33%), sensitization to occupational allergens was observed in 48 workers (34%). Based on symptoms, lung function and bronchial hyperresponsiveness 18 workers were referred for further medical investigation. Occupational allergic rhinitis was diagnosed in 15 workers (11%), 2 of whom also had occupational asthma. Sensitization to occupational allergens correlated with self reported job related allergic symptoms ($p=0.007$) and with BHR ($p<0.001$). Conclusion: Workers exposed to allergens in a plant for the production of biological pesticides are at high risk for developing occupational allergies. We wonder whether consumers may also be at risk.