DOES THE HYGIENE HYPOTHESIS HOLD FOR COFFEE WORKERS IN PAPUA NEW GUINEA?

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Introduction Green coffee dust is allergenic and can cause respiratory diseases among coffee industry workers. The allergic relevance for the thousands of coffee plantage workers worldwide is unclear. We determined the prevalence of sensitization against green coffee and respiratory complaints among coffee plantage workers. Methods We conducted a cross-sectional survey among 441 coffee plantage workers of the Highlands in Papua New Guinea. The questionnaire addressed respiratory complaints, smoking habits, work and living conditions. Specific serum IgE was determined in each individual with ImmunoCAP. Inhibition testing for coffee and house dust mites were also performed. Results 48% of the participants reported respiratory complaints, 21,8% workplace related, 41% with allergic symptoms. All had elevated total IgE. 11% had elevated sIgE against coffee, 9% against newguinean coffee 80% against house dust mites. Coffee extract did not inhibit reactions, inhibition tests with dust mite extract inhibited sera with high IgE concentrations. Conclusions High prevalence of parasite infestation in Papua New Guinea leads to high IgE. Against expectations of the hygiene hypothesis the prevalence of sensitization against house dust mite was extremely high. We could not demonstrate relevant sensitizations against coffee allergens. Possibly more sensitive diagnostics are needed in order to diagnose coffee allergy.