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Patients with Multiple Contact Allergies: Population Characteristics and Clinical Presentation

Summary

This PhD thesis deals with patients with multiple contact allergies. Multiple contact allergies are defined as contact allergy to 3 or more chemical substances and are synonymous with polysensitization. The superior aim of the thesis was to contribute to a better characterization of the group of patients with multiple contact allergies, and within this to 1) examine the prevalence (manuscript I, study part I); 2) describe the demographic characteristics (manuscript I, study part I); 3) describe subgroups (manuscript IV, study part III); 4) examine the type of allergies and associations between allergens and polysensitization (manuscript II, study part I); 5) examine clinical characteristics such as site of dermatitis (manuscript V, study part III), course and duration of disease (manuscript IV, study part III); and 6) examine the elicitation response at challenge with specific allergens in patients with multiple contact allergies (manuscript III, study part II).

The thesis consists of 3 study parts. Study part I is an epidemiological study based on data from 14,998 individuals patch tested with the European Baseline Series at one hospital department during 1985-2005. Study part II is an experimental dose-response study, which included 13 polysensitized individuals and 38 individuals with 1-2 contact allergies. Study part III is a questionnaire study conducted on 394 polysensitized individuals and 726 matched controls with 1-2 contact allergies, all from the same cohort as used in study part I.

The studies showed that the frequency of polysensitization over 20 years was stable. The prevalence was 5.1%. Four out of 5 with multiple contact allergies were women and the risk of polysensitization increased with increasing age; 90% were diagnosed with multiple contact allergies at the first patch test in the hospital sector. When repeating the patch test, the risk of multiple contact allergies increased. Around every 9th patient with multiple contact allergies was patch tested several times, which indicates persistent or recurrent dermatitis. Those allergens that are known to be frequent causes of contact allergy were also frequent causes among patients with multiple contact allergies and vice versa for the rare allergens. Several allergens were, respectively, positively and negatively associated with polysensitization, but no clear pattern of associations was found.

In patients with multiple contact allergies, 45% had had atopic eczema, whereas the occurrence of leg ulcers was low. The hands were the body part which was affected with dermatitis most frequently at time of debut. Patients with multiple contact allergies did not have more widespread dermatitis than did patients with 1-2 contact allergies. Atopic eczema and hand dermatitis were positively associated with polysensitization. Neither specific educational levels nor leg ulcers increased the risk of polysensitization. Other body parts were also, respectively, positively and negatively associated with polysensitization, but this was not as consistent as with hand dermatitis. The number of contact allergies had a different

influence on duration and course of disease among patients with and without atopic eczema, respectively.

At elicitation with allergens in dilution series, patients with multiple allergies did not react at lower concentrations than did patients with 1-2 contact allergies. Therefore, patients with multiple contact allergies could not be viewed as more reactive.

The studies have contributed with demographic and clinical data about patients with multiple contact allergies and new risk factors have been identified. Future research in patients with multiple contact allergies can profit from using prospective designs, and, for example, genetic association studies can profit from using patients with multiple contact allergies as point of reference.