1. LIFETIME PREVALENCE AND CHARACTERISTICS OF PHOTODERMATOSES IN EUROPE

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Objectives/Methods: Although photodermatoses are common skin diseases, epidemiological data are lacking. In the framework of the European project SUNALL (http://www.sunall.net) we performed a survey in indoor workers (mainly hospital staff) on prevalence, signs, symptoms and treatment of photodermatoses (sun allergies) using a standardised questionnaire within Europe.

Results: In 6 centres distributed from the Mediterranean to Scandinavia, the data of 6866 participants were analysed. 18% of them answered that they do get an itching rash/ abnormal skin after sun exposure (a so-called sun allergy), which does not fit the criteria of a sunburn. In 29% the photodermatoses have been confirmed by a physician (55% dermatologists). Women are nearly three times more often affected than men (23% vs. 9%). Comparing the different centres we found the following lifetime prevalence rates for photodermatoses: Athens (Greece) men 15%/women 26%, Besançon (France) 5%/21%, Heidelberg (Germany) 9%/29%, Leiden (Netherlands) 7%/26%, Manchester (Great Britain) 9%/26% and Turku (Finland) 2%/14%.

Increasing pigmentation correlates with a decrease of photodermatoses (overall prevalence skin type I 32%, II 26%, III 14%, IV 9%). About half of the photodermatoses have been treated mostly with sun block cream (65% of those treated). Other treatments: steroid cream (42%), phototherapy (9%) or steroid tablets/injections (7%). Only 54% get their rash during springtime but over 90% during sunny holidays. 93% get itching during the rash. 25% of people with photodermatoses report a reduction of their quality of life.

Conclusions: Our data document the high prevalence of photodermatoses in Europeans. Interestingly, we found no increase in regions far away from the equator, but we found a more pronounced sex ratio.

2. THE ASSOCIATION OF EARLY INFECTIONS AND ATOPIC DERMATITIS – A RETROSPECTIVE CASE – CONTROL STUDY IN CHINESE CHILDREN IN PRIMARY CARE IN HONG KONG

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Objectives: To investigate the association of early infections and atopic dermatitis (AD) in Chinese children in primary care in Hong Kong.

Methods: Our setting were two primary care surgeries run by a family physician. We searched our database with "atopic dermatitis" and "atopic eczema" and retrieved medical records of all infants and children (below 8) with AD diagnosed between 1 April 2003 and 31 March 2004. An age-limit of 8 was used as the surgery commenced service 9 years ago. Records of children above 8 might not have reliable early history documented.

The diagnoses were all made by one of us (AC) with training in paediatrics and dermatology. We checked whether the diagnostic criteria according to the United Kingdom Working Party was fulfilled, and excluded children who do not fulfil the diagnostic criteria, not of Chinese origin, or not cared by us since birth.

For each child with AD, we retrieved the record of the next child of same sex and similar age ($\pm$ 1 year) who consulted us but did not have AD as a paired control.

For all study and control subjects, we retrieved the following information from records: (1) whether the child had a febrile episode or a clinical infection before age of 6 months, number of such episodes, diagnoses made, (2) whether the child was hospitalised before 6 months, number of such episodes, diagnoses made, and (3) whether the child was prescribed antibiotics before 6 months, number of such episodes, diagnoses made. For (1), febrile episodes clearly documented to be related to vaccinations were not included.

One of us then re-checked the records for validity of diagnosis and accuracy of information.

Results: Records of 375 children were retrieved. Of such, 182 were not cared by us since birth. Of the remaining 193, 132 (74 boys and 58 girls) had documented evidence of fulfilling the diagnostic criteria. They aged from 4 months to 8 years (mean: 3.8 years). The 132 control subjects aged from 5 months to 8 years (mean: 3.6 years).

33 (25%) children with AD had a total of 48 febrile episodes or infection before 6 months, while 39 (31%) controls had 59 febrile episodes or infection ($p = 0.46$). Viral respiratory tract infections were the commonest, followed by otitis media. 4 (3%) children with AD and 3 (2%) controls were hospitalised during the first 6 months ($p = 0.46$). 9 (7%) children with AD and 8 (6%) controls were given antibiotics during the first 6 months ($p = 0.82$).

The odds ratio of having AD for children with no febrile episode or infection to those with one or more febrile episodes or infection was 1.26 (95% CI: 0.71–2.18).

Conclusions: There is no significant association between early infection and the risk of AD in our sample of Chinese children in primary care in Hong Kong.

3. SELF-MANAGEMENT IS EFFECTIVE IN ATOPIC DERMATITIS – RESULTS OF THE GERMAN ATOPIC DERMATITIS INTERVENTION STUDY (GADIS)

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Background: Atopic dermatitis (AD) is a well known but difficult to treat common, chronically relapsing, inflammatory skin disease with a high economic burden, high impact on the quality of life and an increasing prevalence within the last decades. Patient education programs are part of patient empowerment to solve problems with chronic diseases but there efficacy has not yet been proven for AD. The aim of our study was to evaluate the efficacy of an educational program for the self management of AD in children.

Methods: Age related standardized atopic dermatitis group intervention programs have been developed by a National Study Group for the following three age groups: parents of AD children aged 0 to 7 years, parents and children aged between 8–12 years and adolescents aged 13–18 years. The standardized treatment program consisted of 6 weekly group sessions of 2 hours each. Inclusion criteria were the diagnose of atopic dermatitis in a child or adolescent with the severity of eczema according to the SCORAD scale of at least 20 points. In a randomised prospective controlled trial we investigated the efficacy of these atopic dermatitis intervention programs in the three different age groups. The groups were randomised and compared with a waiting control group (0–7 years: $n = 518$; 8–12 years: $n = 208$; 13–18 years: $n = 148$) and followed up for 1 year. Besides severity of eczema according of the SCORAD scale, standardized questionnaires regarding subjective severity, quality of life and itching behaviour were used. The changes of the investigated parameters at the beginning of the study (T0) and 12 months after the end of the education program (T3) were analysed by using analyses of covariance.

Results and Conclusions: The drop out rate after 12 months follow-up was relatively low in all three age groups (0–7 years: 17.9%; 8–12 years: 11.1%; 13–18 years: 18.9%). Significant better effects were observed in the intervention group compared to the control group with regard to severity of eczema in the SCORAD, subjective severity, itching cognition and quality of life in all three age groups. Our results demonstrate that this educational group intervention program is effective in the long term disease management of atopic dermatitis in children aged between 0 and 18 years. Our educational program should be considered a part of the routine care of children and adolescents with AD.

4. THE NATURAL COURSE OF ATOPIC DERMATITIS – MODEL-BASED CLUSTERING BY LATENT CLASS MIXTURE MODELS

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Background: Knowledge about the course of a chronic disease is important for patients, physicians and health authorities. Surprisingly few studies have been published regarding the natural history of atopic dermatitis, a chronically relapsing skin disease, and most of the studies are biased due to many reasons.

Methods: In a prospective cohort study data on the prevalence of atopic dermatitis were followed up over 7 years in 1314 newborns. The diagnosis of atopic dermatitis was based on four different sources of information: 1. the reported diagnosis by the family physician, 2. the examining doctor's opinion on reported relevant symptoms, 3. the diagnosis given by the examining doctor, and 4. a computer algorithm who constructed diagnoses from typical morphological skin phenomena. Relying on previous work of Nagin, a Latent class mixture model was used to estimate, in a data-dependent and model-based fashion, a clustering of typical binary atopic dermatitis disease histories in children.

Results and Conclusions: The following four subgroups could be identified by statistical modeling: Group 1 (78.8% $\pm$ 2.8) children remaining free of disease; Group 2 (7.0% $\pm$ 3.0) children with a age-independent estimated AD prevalence; Group 3 (8.0% $\pm$ 1.9) children with an increasing prevalence of AD, starting from a very low level of prevalence; Group 4 (6.2% $\pm$ 0.9) children already having a high risk of AD at time of birth and increasing risk until the age of seven years. The proposed model has the capability to identify rather than assume distinctive groups of disease histories, to estimate the proportion of the population following each such group, to relate group membership to individual risk factors and covariates, and to use the group membership probabilities for displaying average profiles of group members.

Nagin DS (1999) Analyzing Developmental Trajectories: A Semi–Parametric, Group–Based Approach. Psychological Methods, 4, 139–77.

5. PREVALENCE OF HAND ECZEMA

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Objectives: Several studies concerning the prevalence of hand eczema in certain occupations have been performed during the last years, but few data exist from population-based surveys. The following study investigates the 1-year prevalence and point prevalence of hand eczema in the population of Heidelberg, Germany.

Methods: 2500 randomly selected inhabitants of Heidelberg between 20 and 60 years of age were asked to fill in a questionnaire on hand eczema consisting of both symptom-based and diagnose-related questions. The questionnaire was developed according to the one validated and published in 1992 by Smit et al. Furthermore, the study population was asked about a possible correlation between skin changes and occupation.

Results: With 192 persons having already moved out of the study area and a remaining sample size of 2308, the response rate was 73%. For yet another 5% of the study population, reasons for non-response could be assessed. Of the 1690 responders, 22% had experienced at least one of the following symptoms on their hands during the last 12 months: redness and swelling, redness and fissures, vesicles, scaling and fissures, itching and fissures. 41% of affected persons reported their symptoms persisting for longer than 3 weeks, and in 77% of affected persons the symptoms occurred more than once. However, a self-reported diagnosis of hand eczema during the last 12 months was given by only 6% of study participants, and only 3,5% reported a present hand eczema. 6% of study participants (26% of persons with skin changes on their hands) established a relationship between their symptoms and occupation, a further 4% was not sure how to answer.

Conclusions: Symptoms possibly pointing to hand eczema are often to be found in our study population, but only a fraction of the persons affected seems to be aware of the diagnosis. If symptom-related questions are used in questionnaire surveys, the prevalence of hand eczema could be overestimated, but asking only for a self-reported diagnosis could lead to an underestimation of the true values for prevalence. Validated criteria for the diagnosis of hand eczema should be defined in order to facilitate questionnaire studies.

6. LIFETIME PREVALENCE OF ATOPIC DISEASES IN A POPULATION-BASED SAMPLE OF AN ELDERLY POPULATION: RESULTS OF THE ESTHER-STUDY

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Objectives: Prevalence studies of atopic diseases such as atopic dermatitis, hay fever and allergic asthma have mostly been performed in children. Studies in the adult population are still rare.We estimated the lifetime prevalence of atopic diseases in an elderly population in Saarland, Germany, and determined the association between the duration of school education (as a proxy measure of socio-economic status) and atopic diseases. Family history and size of residence with respect to atopic diseases have also been examined.

Methods: This study was conducted between June 2000 and December 2002 in the State of Saarland, Germany. 9961 participants aged 50 to 75 years were recruited by their general practitioner . All filled out a standardized questionnaire and reported whether a physician ever had diagnosed an atopic disease (hay fever, atopic dermatitis or asthma).

Results: Overall, 9949 subjects (mean age 62 yrs., 45 % male) were included in this analysis. The lifetime prevalence for asthma, atopic dermatitis and hay fever was 5.5%, 4.3% and 8.3%, respectively. Duration of school education ($<= 9$ years, 10–11 years, > 11 years) was strongly associated with atopic dermatitis and hay fever, but only tentatively with asthma. With increasing duration of school education the prevalence of atopic dermatitis (3.7%, 5.7%, 6.8%; P trend $< .0001$) and hay fever (7.2%, 11.2%, 12.8%; P trend $< .0001$) increased continuously.

Conclusions: The lifetime prevalence for atopic dermatitis is considerably lower in the elderly compared to recent studies on prevalence among children and adolescents. Adults with a longer duration of school education appeared to have a higher risk for atopic diseases.