Oral Abstract Session OAS 35

Contact dermatitis and urticaria

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Can unresponsiveness to nickel be induced by repeated nickel patch tests through infancy?

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Background: The question is raised if nickel tolerance can be induced in humans. Based on animal experiments peroral nickel exposure can induce tolerance, and circumstantial evidence from human studies supports the idea. It is more controversial if percutaneous exposure under certain circumstances may induce tolerance.
Method: A total of 562 of 1095 consecutive full-term children born the first 2 weeks of each month at Odense University Hospital, Denmark from November 1998 to November 1999 were included in the DARC cohort. The Infants were tested at 0, 3, 6, 12, 18 and 36 month with nickel sulphate in three concentrations 200, 66, 22 μg/cm^2 (TRUE Test®; SmartPractice, Hillerød, Denmark). The patch tests were placed on the upper back for 2 days, read at day 3–4, and scored according to the International Contact Dermatitis Research Group (ICDRG) guidelines. At the follow-up investigation in 2013–2014 we offered all participants, aged 13–15 years, a retest with TRUE Test® panel 1, 2 and 3 including nickel sulphate 200 μg/cm^2. The prevalence of nickel sulphate reactivity in the DARC cohort was compared to the prevalence reported in The Odense Adolescence Study (TOACS) from 1995 including unselected adolescents aged 13–15 years patch tested only once.
Results: At the 14 years follow-up investigation in the DARC cohort 249 of 373 were retested; 59.3% were girls. And positive nickel sulphate patch test was seen in only two girls and both reactions were clinically relevant giving a point prevalence of 0.8%. In the TOACS cohort 8.6% (98/1146) had a positive nickel sulphate patch test and 5.9% (68/1146) had a clinically relevant nickel allergy.
Conclusion: The significant decline in nickel reactivity comparing the TOACS and the DARC cohort could be interpreted as we have induced nickel unresponsiveness by repeated nickel patch tests through infancy. It seems unlikely that the Danish Nickel regulation alone could cause the major decline in the number of nickel sensitized adolescence during the 18 years period.

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Patch test results in children and adolescents with eczema: results from a multi-centre network of dermatologists and allergists (Phase 2 of the KRAK Study)

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Background: The prevalence of allergic contact dermatitis in children and adolescents is comparable to that of atopic dermatitis, moreover, there is a considerable comorbidity. Therefore, patch test is the gold standard of diagnostic work-up in every patient with chronic or recurrent eczema, regardless the preliminary diagnosis.
Aim: The aim of the present study was to analyse the frequency of contact allergy and allergic contact dermatitis in children and adolescents with chronic or recurrent dermatitis.
Method: Presented data were collected during the Phase 2 of the KRAK Study – a multi-centre observational study of patients with chronic or recurrent eczema. Ten dermatology and allergy centres (from university clinics to private consultancies) participated in this network by submitting clinical data of all patients qualified for routine patch testing, i.e. all new patients with chronic or recurrent dermatitis. The patch test series was the European Baseline Series expanded to 50 substances (single haptens or hapten mixes) applied in IQ Ultra test units (Chemotechnique Diagnostics). The loaded patch tests units were mounted on the patient's back for 2 days and read at least twice during an observation period of minimum 3 days following removal of the units (total test duration 5–8 days). The results were recorded in line with the ICDRG criteria, while clinical relevance of positive reactions was assessed with the use of the CODEX score.
Results: Altogether, 171 children aged 0.5–13 (median 6) years and 119 adolescents aged 14–21 (median 18) years were patch tested. At least one positive reaction was recorded in 119 children (70%) and 70 adolescents (59%). In 55 children (32%) and 44 adolescents (37%), the tests were considered clinically relevant, leading to the ultimate diagnosis of allergic contact dermatitis. The 'top ten' sensitizers among children with eczema were nickel (33%), chromium, palladium and limonene (16% each), cobalt (15%), linalool and gentamicin (12% each), gallates (11%), methylisothiazolinone (6%) and propolis (5%). Top ten sensitizers among adolescents were nickel (20%), palladium (14%), cobalt (13%), limonene (12%), linalool (10%), methylisothiazolinone (9%), chromium and gallates (8% each), paraphenylenediamine (7%) and textile azo dye disperse orange 3 (6%).
Conclusion: Contact allergy is a frequent cause or complication of eczema in children and adolescents. The major sources of sensitization in these groups are metals and cosmetics.

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Prevalence of late cutaneous reactivity to metabisulfites in patients with and without chronic eczema in Argentina

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Background: Sulfites are used as preservatives and antioxidants in the cosmetic, pharmaceutical and food industry. Allergic contact dermatitis (ACD) caused by sulfites