

**Background:** Dimethylcyclohexen carboxaldehyde (DMC) is a fragrance ingredient with several isomeric forms. They are considered to have weak allergenic properties and are used in cosmetic products for their odour. Their molecular structure is closely related to hydroxyisohexyl 3-cyclohexene carboxaldehyde (HICC) which is one of the most frequent causes of fragrance allergy. Cross-reactivity between the DMC fragrance ingredients and HICC have not yet been investigated and it is unknown if they are important allergens.

**Objectives:** To investigate (i) frequencies of contact allergy to a DMC mixture 5% in pet., (ii) cross-reactivity between the DMC mixture and HICC and (iii) to assess the exposure sources having caused DMC contact dermatitis by chemical analysis or a general relevance assessment.

**Methods:** A multicentre study on consecutively patch tested eczema patients, all tested with the Baseline Series and additionally a DMC mix 5% in pet. ( $n = 2511$ ) comprising of two isomeric forms of DMC. Six departments participated, each testing at least 450 eczema patients during 2011/2012. Cosmetic products suspected of containing DMC ingredients and of causing allergic contact dermatitis were registered.

**Results:** The preliminary analysis show that contact allergy was detected in 12 subjects and most (>80%) had co-reactivity to HICC. Cosmetic products were the only exposure sources having caused allergic contact dermatitis to DMC.

**Conclusion:** Allergic contact dermatitis to the DMC mix is relatively common among eczema patients (0.5%) and cross-reactivity to HICC was frequent. This study emphasizes the need for awareness of fragrance ingredients, which have similar chemical structure to well-known allergens in regard to patch testing, information to the patient and preventive measures.

**Conflicts of interest:** The authors have declared no conflicts. Magnus Bruze is a member of REXPAN.

## P24

### Contact allergies in patients with hand eczema: KRAK study results

R. Spiewak<sup>1</sup>, E. Grubska-Suchanek<sup>2</sup>, A. Cisowska<sup>3</sup>, K. Jedrzejewska-Jurga<sup>4</sup>, M. Pasnicki<sup>5</sup>, Z. Raduszevska<sup>6</sup>, V. Balicka<sup>7</sup>, R. Olszanski<sup>8</sup>, A. Gregorius<sup>1</sup> and P. Sznelewski<sup>9</sup>

<sup>1</sup>Jagiellonian University Medical College, Krakow, Poland, <sup>2</sup>Medical University, Gdansk, Poland, <sup>3</sup>Dermatology Practice, Kamienna Gora, Poland, <sup>4</sup>Regional Centre of Occupational Medicine, Wroclaw, Poland, <sup>5</sup>NZOZ Allergicus-Dent, Zary, Poland, <sup>6</sup>Allergology Practice, Skarzysko Kamienna, Poland, <sup>7</sup>Allergy Practice, Ostrow Wielkopolski, Poland, <sup>8</sup>Dermatology and Allergy Practice, Gdynia, Poland, and <sup>9</sup>Military Medical Institute, Warszawa, Poland

**Background:** KRAK Study is a Polish multi-centre patch test study utilizing the new Polish Baseline Series (introduced in June 2010), which basically consists of European Baseline Series supplemented with two frequent and relevant sensitizers palladium and propolis. Among standard indications for patch testing is hand eczema lasting for more than 1 month.

**Objectives:** To analyse KRAK Study patch test results in patients with hand eczema.

**Methods:** From 624 patch test records received from KRAK Study participating centres between June 2010 and October 2011, data of 192 patients with hand dermatitis were identified and analysed

for haptens most frequently causing contact sensitization, and those considered clinically relevant for the present disease. KRAK Study database collects results of testing to the complete Polish Baseline Series (Chemotechnique Diagnostics) exclusively.

**Results:** Out of 624 patients, hand eczema was the sole or co-indication for patch testing in 192 (30.8%) – 53 males and 139 females aged from 0 to 84 (median 35) years. At least one positive patch test reaction was recorded in 113 (58.9%). In 81 patients (42.2%), at least one test result was deemed clinically relevant for the present hand eczema. The top 10 sensitizers were nickel (36.5% positive; 27.1% deemed clinically relevant), chromium (18.2%; 10.4%, respectively), cobalt (18.2%; 10.4%), palladium (12.5%; 2.6%), paraphenylenediamine (5.7%; 3.6%), fragrance mix II (4.7%; 0.5%), balsam of Peru (4.2%; 1.6%), primin (3.1%; 2.1%), lylral and propolis (each 3.1%; 0.5%).

**Conclusions:** Patients with hand eczema are sensitized predominantly to metals and cosmetic ingredients. Natural remedies containing balsam of Peru and propolis should be avoided because of high sensitization rates in this group.

**Conflicts of interest:** The authors have declared no conflicts.

## P25

### Hand eczema – 10 years retrospective study

H. Barreiros, P. Serrano and F. M. Brandão  
*Hospital Garcia de Orta, Almada, Portugal*

**Background:** Hand eczema is a common disease with an incidence rate reported to be 5.5–8.8 per 1000 person-year. Hand eczema has severe, negative impact on quality of life and social status. Due to its chronic course, hand eczema is an expensive disease for society and a burden for the individual.

**Objectives:** The present study attempts to characterize hand eczema with respect to basic demographics, medical history and morphology. A statistical study of hand eczema was performed, from 2002 to 2011, by a retrospective survey carried out among patients submitted to patch tests in our department.

**Methods:** Clinical data from 434 patients with hand dermatitis from our department were assessed. All participants were patch tested with the Portuguese Group baseline series. Additional patch tests and prick tests, aimed at specific patients, were added.

**Results:** In total 1114 patients were examined, 434 for hand dermatitis. The median age was 40 years (range 4–86); participants were 271 women and 163 men. Patients were divided in different subdiagnoses: irritant contact dermatitis 164 (37.8%); allergic contact dermatitis 147 (33.9%); atopic hand eczema 33 (7.6%); desidrotic hand eczema 26 (6.0%); fotoallergic contact dermatitis 2 (0.5%); 62 (14.3%) had not hand eczema, but other diagnosis, like psoriasis. Most allergic contact dermatitis was found in construction workers (35), housekeepers (22) and health care workers (18). Irritant contact dermatitis was more prevalent between health care workers (45), housekeepers (17) and office workers (17). In allergic contact dermatitis the most frequent sensitizers were: metals (40); rubber additives (35); plants (34); preservatives (21) and hair dyes (13).

**Conclusions:** The aetiology of hand eczema is multifactorial and includes environmental as well as genetic factors. Certain workers are particular vulnerable to hand eczema and in these proper preventive programmes should be considered to avoid further lowering of their quality of life.

**Conflicts of interest:** The authors have declared no conflicts.