

Letters to the Editor

Sensitive skin is not a subclinical expression of contact allergy

Dear Sir

We read with interest the paper by Francomano et al. (1), which describes patch-test reactions to the GIRDCA standard series in sensitive-skin and non-sensitive-skin subjects. Some aspects of their data analysis and discussion may be controversial.

We have reinterpreted the data collected by Francomano et al. (1) on 98 subjects (49 with self-reported sensitive skin, 49 with self-reported non-sensitive skin) using the χ^2 test. The analysis was made for each allergen considered in the study. The results are presented in Table 1. Although the positivity of the patch test to nickel sulfate appears statistically significant between sensitive and non-sensitive skin, it is not the case for all other allergens, which do not show any significant difference, whether the analysis be one-by-one or all together.

In our opinion, these results do not lead to the conclusion that the "differences in the frequency of sensitization to *all* allergens ... between the 2 populations were statistically significant". Considering the data presented in the paper, nickel sulfate is the only allergen found to be significantly different between sensitive skin and non-sensitive skin. Consequently, it appears premature to conclude that "a consistent group of subjects with sensitive skin are in fact persons with subclinical allergic contact dermatitis, probably reacting to

minimal doses of nickel or other allergens present in cosmetics ...".

De Groot et al. (2) have reported in 1609 subjects that "adverse effects of cosmetics and toiletries seem to be caused by irritation rather than allergy". In addition, a large number of papers on sensitive skin have suggested that sensitive skin is a different disorder from contact allergy. Alteration of barrier function has been emphasized as being a major feature of sensitive skin (3, 4), and more recently, attention has been given to cutaneous sensory nerve involvement (5).

The specific feature reported with nickel sulfate for sensitive skin must nevertheless be considered as a particular point to discuss. Regarding nickel, 3 specific points must be considered.

(a) Nickel is hydro-soluble; an alteration in the barrier function could increase the exposure of the skin immune system to soluble nickel.

(b) Studies have shown that nickel salts are retained in the skin for an extended period of time and could lead to prolonged antigen processing (6).

(c) The way nickel reacts with skin proteins to form complete antigens is somewhat different from that of common electrophile sensitizers: coordinated chemical bonds (namely with a square planar tetra-coordinated arrangement), and not covalent bonds, occur between nickel or nickel

Table 1. Patch test results from Francomano et al. (1) with our statistical analysis

Allergens	Sensitive skin (<i>n</i> =49); no. positive responses	Healthy subjects (<i>n</i> =49); no. positive responses	Exact <i>p</i> -value (χ^2 test)
nickel sulfate	19	5	<i>p</i> ≤0.05
fragrance mix	3	2	1.0
neomycin sulfate	1	1	1.0
oleamidopropyl dimethylamine	1	0	1.0
gold sodium thiosulfate	0	2	1.0
thimerosal	1	0	1.0
p-phenylenediamine	3	1	0.62
eugenol	1	1	1.0
phenol-formaldehyde resin	1	1	1.0
thiuram mix	2	0	0.5
balsam of Peru (Myroxylon Pereirae)	0	1	1.0
cobalt chloride	0	1	1.0

p=0.50

salts and electron-rich atoms (mainly heteroatoms, such as nitrogen or oxygen) (7).

These several factors (increase in skin penetration, specific chemical bonds, persistent storage in the skin) could easily explain the increased tendency of nickel to become a sensitizer on sensitive skin.

In conclusion, there is no evidence supporting the concept that sensitive skin could be a subclinical expression of contact dermatitis.

Yours sincerely

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Reply

Dear Sir

Some time ago, we presented the results of patch tests in 49 subjects with sensitive skin (SSS) compared to 49 non-sensitive subjects. A significant proportion of SSS reacted to nickel sulfate and other allergens (33 compared to 15 belonging to the healthy group, $p < 0.005$), and we concluded that “a consistent group of subjects with sensitive skin are in fact persons with subclinical allergic contact dermatitis probably reacting to minimal doses of nickel or other allergens which are present in cosmetics and other topical products”. With our report, we did not intend to simplify or underestimate the problem of the pathogenesis of sensitive skin, which may represent a complex syndrome, reducing it to a minimal expression of contact allergy. In fact, we did not want to ignore that stinging and burning sensations on the face may rely on alterations of cutaneous sensory innervation and barrier function.

However, we have to point out that there is an increasing trend to labelling minor inflammatory skin problems of the face as due to “sensitivity” problems, without performing allergological investigations both in the direction of atopy and contact allergy, which, in our opinion, should be performed in all of these subjects. Moreover, as in other inflammatory skin diseases where contact

sensitization may be superimposed on the primary affection, exposure to contact allergens may influence the course of the basic disease, and it is a common clinical experience that, in most contact-sensitized atopic dermatitis patients, interruption of the exposure to the contact allergen achieves an improvement in the dermatitis. Therefore, there may be cases of facial dermatitis labelled as “skin sensitivity” cases, which may be exclusively based on contact sensitization, as well as others of different pathogenesis where contact allergy may be secondary.

It is well-known that trace amounts of nickel as a pollutant may be contained in poor quality cosmetic products. In fact, the advice given to our patients of using better quality cosmetic products induced a clinical remission of symptoms in 14 contact-sensitive cases, pointing to the relevance of positive patch test responses.

Yours sincerely

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Osmaron B[®] is a rare occupational, but a frequent cosmetic, allergen

Dear Sir

Haapasaari & Niinimäki (1) describe the case of a 61-year-old farmer who was sensitized to the biocide Osmaron B[®] contained in the milking cream she had used to treat the udders of her cows. Some decades ago, milking cream ('Melkfett') was the leading occupational allergen in German agriculture (2). Nowadays, with the general use of milking machines, occupationally-caused contact allergies are rare. However, during recent years, alternative (i.e., 'natural') remedies and cosmetics have enjoyed a renaissance (Osmaron B[®] is in fact not a synthetic biocide but is obtained from palm kernel oil and corn oil (3)). Milking creams are very popular in household medicine, and, therefore, further case reports of Osmaron B[®] contact allergy were to be expected (4).

Osmaron B[®] was tested in 3135 patients with a 4-year period by departments belonging to the IVDK (5). This patch-test population must not be regarded as unselected, as patients were additionally tested with a preservatives series. Rates in such selected populations are always higher compared to unselected groups. Nevertheless, the sensitization frequency of 2.0% (63/3135) may reflect the problem with natural cosmetics. In the subgroups of younger women (age <40 years), Osmaron B[®] was even the leading allergen of the preservatives series. Evaluating contact allergies in health-care workers (6), we found that nurses were sensitized even more frequently (5.1%) to Osmaron B[®].

Our data show that the impact of some allergens may be underestimated if not evaluated on the large data scale of a surveillance system (7). Analy-

sis of subgroups is possible and may further specify the population at risk. People using alternative cosmetics or alternative remedies like milking cream belong to that group.

Yours sincerely

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Reply

Dear Sir

We thank Dr. Schnuch for his interest in our case report concerning allergic contact dermatitis from alkylammonium amidobenzoate (Osmaron B®). It is true that dermatologists treating eczema should be aware of the 'alternative/natural' remedies, which may include even milking and udder creams. Patients often fail to mention them, unless specifically asked. In northern Finland, 2 milking creams, Tummeli® and Helosan®, are very popular as skin care and suntan creams, even among the non-farming population. The milking cream containing Osmaron B® has not yet achieved the reputation of being a particularly effective skin cream.

However, it is probably used as both a hand cream and an udder cream by farmers. The frequency of skin sensitization to Osmaron B® seems to be extremely high in Germany. It would be interesting to know its clinical relevance.

Yours sincerely

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