Patients with Visual Display Unit-related Facial Symptoms Are Stingers

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PATIENTS AND METHODS

Thirty patients with VDU-related skin symptoms and 32 controls with healthy skin were enrolled in the study. The patients were recruited from a former study with stress provocations combined with VDU exposure (in preparation). They all had subjective facial skin symptoms, which they related to exposure to VDUs or other electric equipment. However, none of them could assess, in the double-blind experiment situation, whether or not they were exposed to real electromagnetic fields. They all had normal facial skin status, i.e. no facial skin diseases were found. Their subjective skin symptoms were described in various ways: tingling, itching, burning or stinging sensations. The controls were randomly selected, age- and sex-matched, with healthy skin, from the staff of the Department of Dermatology at Karolinska Hospital. The groups were equivalent with regard to age, gender, skin types (16), atopic diseases or family history of atopy.

The lactic acid tests were performed according to studies by Frosch & Kligman (11) and Lammintausta et al. (12). After cleaning the facial area below the eyes with soap and water, facial sweating was induced by exposure to a commercial facial sauna (Silhouet-Tone 50126, Canada) for 15 min. A solution of 5% of lactic acid in water was then applied with a swab in a gentle rotating motion to one side of the cheek from the side of the upper lip upwards across the cheek. Water was applied as a placebo control in the same manner to the opposite side. The studied persons were asked after 2, 4 and 5 min to describe the presence and intensity of any skin sensation. The following sensations of the total sum of scores for persons in the two groups was compared using the Mann-Whitney U test, and maximal scores in any of the three times (Fig. 2) were compared with the use of the exact chi-square test. The total sum of scores for persons in the two groups was compared using the Mann-Whitney U test, and maximal scores in any of the three times were compared with the use of the exact chi-square test. The groups were considered to differ significantly when p<0.05.

RESULTS

Thirteen of 30 persons in the patient group and 6 of 32 subjects in the control group (p<0.05) reacted positively as “stingers”. Two control persons and one patient had some kind of symptom from the placebo test with water. In calculations of the total sum of scores for persons in the two groups (Fig. 1) or the maximal score at any of the three times (Fig. 2), the groups also differed significantly (p<0.05).

DISCUSSION

The study shows that patients with facial skin symptoms related to work with VDUs more frequently are stingers, although they do not have a visible skin disease. The lactic acid test is an objective skin test, which has formerly been shown to be useful in detecting patients sensitive to cosmetics without having a positive patch test. In this test the hydration of the skin with the facial sauna is essential to provoke
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to have a lower skin pH than control persons after application of lactic acid to the skin (15). Further studies are needed to confirm the above-mentioned skin pH results, and also to explore the role of skin neuropeptides in stinging.

REFERENCES


Acta Derm Venereol (Stockh) 78