

The only exceptions were D + C vs D and P + G vs P at 1 : 32 and 1 : 64 dilutions. No SPT response was seen in control individuals.

The larger mean diameters of wheals induced by using a mix of two allergens, in comparison with the single one, suggest an additive effect of multiple proteins on histamine release from cutaneous mast cells. Our findings obtained from an *in vivo* model confirm the additive effect of multiple allergens on basophils demonstrated *in vitro* by Nopp et al. (4). Moreover, these data may suggest a change in our interpretation of the potential role of the single allergen in the context of a polysensitization. Each single allergen could be of limited clinical significance, but a simultaneous exposure to several allergens may induce a greater release of the mediators and, consequently, a higher degree of respiratory symptoms. Because of the increasing number of polysensitized patients, this interpretation could determine potential implications and deeper understandings in the therapeutic management of allergic patients, for instance with immunotherapy and anti-IgE antibodies.

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Use of topical steroids is largely restricted by irrational emotional concerns in both patients and physicians

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Key words: allergic rhinitis; atopic dermatitis; corticosteroids.

Undertreatment with topical corticosteroids has frequently been reported in

patients with allergic rhinitis and atopic dermatitis. To understand better the reasons, a representative assessment of emotional attitudes towards the use of corticosteroids in patients (allergic rhinitis and atopic dermatitis), caretakers, physicians, pharmacists, and in the general healthy population was performed (1).

This study was carried out in two steps. First, qualitative data were collected in four German cities during group discussions with patients, physicians, pharmacists, parents of allergic rhinitis, and atopic dermatitis patients (each 32 in separate groups of 8). This was followed by a representative online questionnaire survey in 406 allergic rhinitis patients, 401 atopic dermatitis patients, 453 physicians (202 general practitioners, 150 dermatologists, 101 pediatricians), 200 pharmacists, and 1632 adults without

chronic disease. The Osnabrück scale and the TNS Health Care Emotional Profiler were used to assess fear and emotion.

In all areas of Germany, the healthy adult population had concerns and negative associations with the use of corticosteroids (mean 36–45%) and criteria of steroid phobia were matched by 65% of allergic rhinitis patients, and 43% of atopic dermatitis patients. When receiving the prescription, the prevailing feeling was frustration (26% nasal spray, 28% topical steroid cream), and aversion of a quality similar to that felt with the reference picture of a tarantula.

Eighty-two percent of allergic rhinitis patients and 87% of atopic dermatitis patients were convinced that using corticosteroids would inevitably lead to side-effects. Physicians and pharmacists, however, pointed out that this fear was caused by insufficient discussion of the differences between old and modern topical corticosteroids, which have strongly reduced bioavailability (dexamethasone ≥ 80%, mometasone ≤ 0.1%) and for which sufficient long-term safety data are available. Patients state that they get little information from doctors and pharmacists, and that they are simply lacking trust (2). Apparently, the emotional attitude towards corticosteroids also biases decisions among physicians. Although they profess to know that modern topical corticosteroids are safe, emotional aversion is also frequent (association: last resort, Janus face) and only 49% of physicians prescribed a corticosteroid nasal spray to those patients with allergic rhinitis when it is indicated by guidelines.

In summary, physicians are not able to communicate with patients in a proper manner to ensure trust in the safety of topical steroids. This may be based on the fact that physicians themselves have unconscious concerns and are not sufficiently trained to speak the language of the patients.

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Steroid phobia in both patients and doctors.

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Late side-effects during systemic immunotherapy in children

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Key words: anaphylaxis; asthma; children; immunotherapy; side-effects.

Subcutaneous immunotherapy (SIT) has been proven to be effective for the treatment of respiratory or hymenoptera venom allergy in children (1). Nevertheless, potentially severe side-effects have been reported in the literature, mostly in the adult population (1–3). The aim of this study is to assess the incidence and risk factors of systemic reactions (SR) in an exclusively paediatric patient population.

Delayed reactions during immunotherapy represent a significant risk requiring consequent information to the patient.

We analysed all visits from 2001 to 2006 for immunotherapy at the Paediatric Allergic Outpatient Clinic of the Geneva University Hospital. During this time period, data were recorded in an electronic patient filing system allowing systematic retrieving of information on side-effects. At each visit, the dose and possible immediate or late side-effects were recorded. In case of a reaction after injection, the type of reaction and the treatment administered were reported. All data were treated confidentially. For further analysis, SR were categorized into immediate SR (appearing within 30 min after injection) and late SR (occurring after 30 min). In addition, the severity of SR was graded according to Mallings et al. (4).

One thousand two hundred and seventy-eight injections were administered to 44 patients. A total of 173 reactions were identified (13.6%), out of which 120 (9.4%) were classified as large local and 53 (4.1%) as systemic. An average of 3.9 reactions per patient was observed (for an average of 29 injections per patient). Most of the SR (86.8%) were classified as mild or moderate. We have noted only seven severe SR in six patients (13.6% of the patients).

We then looked for factors in relation with a moderate or severe SR. In comparison to mild SR, severe SR were more frequent in asthmatic patients ($P < 0.05$). The largest number (107/173) of the reactions occurred during the maintenance phase. Nevertheless, SR were most frequent during the initial build-up period (ratio of reactions to the number of injections). Most importantly, we observed a 4.6 times higher probability (95% CI: 2.5–9.9) of a SR rather than a local reaction after the 30-min observation period in the clinic ($P < 0.01$). However, all severe SR requiring immediate treatment occurred within 30 min after injection (Table 1).

Subcutaneous immunotherapy is recognized as an efficient and safe treatment in children suffering from respiratory or insect venom allergy (1, 3). Its use is limited to physicians trained to treat side-effects. Severe SR are rare (0.5%), and in our study severe SR occurred within 30 min after the injection, confirming the adequacy of

Table 1. Severity of the reaction regarding the time of onset

Severity of the systemic reaction (SR)	< 30 min: <i>n</i> (%)	> 30 min: <i>n</i> (%)
Mild SR*	14 (1.1)	15 (1.2)
Moderate SR†	10 (0.8)	7 (0.5)
Severe SR‡	7 (0.6)	0 (0)

*Skin symptoms, mild rhinitis and/or mild asthma.

†Non-life threatening: general itching, erythema, bronchial obstruction.

‡Anaphylactic shock.

the EAACI recommendations in children (1).

As reported in the literature (5), the incidence of mild and moderate SR was 3.6% per injection. Interestingly, we have observed that a significant number (47.8%) of mild and moderate SR occurred after the 30-min observation period in the hospital. These SR were mostly urticaria or rhinitis, requiring either only minor treatment, and in some patients asthma exacerbations clearly linked to SIT. In the literature, delayed reactions occurring after the patient left the medical facilities are not well analysed (1, 6) and the potential severity of these reactions is underestimated. In this study, the delayed SR were systematically recorded. This might explain the higher incidence of mild and moderate SR in our study, compared to the smaller numbers reported in others studies. Patients should be clearly informed on potential delayed reactions (1.7% per injection in our study), and appropriate instructions for treatment should be given.

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