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One-third of patients with therapy-resistant atopic dermatitis may benefit after patch testing

Editor

It is widely accepted that patch testing should be performed on patients with therapy-resistant atopic dermatitis (AD).[1–3] However, the scientific evidence of this recommendation is only based on experts' opinions.[4] Only a previous article tried to evaluate the importance of this indication.[5]

To evaluate the influence of patch testing in the management of our patients with therapy-resistant AD, we conducted a retrospective analysis of 37 patients with therapy-resistant AD patch tested between June 2007 and June 2017. Patch testing was indicated in patients with widespread AD before initiating long-term systemic immunosuppressant therapy and patients who did not improve or immediately rebounded upon discontinuation of topical therapy.[1,4] All patients were patch tested with the Spanish baseline series,[6] TRUE Test®. When indicated, complementary series were used. Chemotechnique® series used were Cosmetics (28 patients), Fragrances (11 patients), Corticosteroids (11 patients), Textile Colours & Finish (two patients), Shoes (one patient), Hairdressing (one patient) and Leg ulcers (one patient). MartiTor® series used were NSAIDs (one patient) and Ophtalmics (one patient). A positive reaction was considered clinically relevant when the medical history and skin examination suggested that was the cause or an aggravating factor of the patient dermatitis.

In total, 22 (59.5%) patients had 52 positive reactions, 12 of whom had positive reactions with clinical relevance (Table 1). These patients were six men and six women, with mean age of 34 (range 6–56 years). All 12 patients had been treated in the past with topical therapy, 8 with systemic corticosteroids, 3 with cyclosporine/azathioprine and 1 with narrowband UVB. The patients with clinically relevant reactions were recommended to avoid the substances that they were sensitized to. During the follow-up, 11 patients improved significantly (29.7%) and only one, sensitized to cocamidopropyl betaine, did not improve. After a follow-up time of 2.3 years (range 1 month–7.3 years) following avoidance, only two patients have required systemic corticosteroid in some acute exacerbations and none of them have needed other systemic immunosuppressant.

In our setting, the fact of patch test patients with therapy-resistant AD would improve almost one-third of the cases. The previous study, published in Japanese literature, that tried to evaluate the scope of this recommendation,[5] did not evaluate the clinical relevance of the positive reactions nor the clinical evolution of the patient after patch testing.

Our study is clearly limited. Firstly, the severity of the AD was not evaluated through standardized scales, as EASI or SCORAD, before and after patch testing.[7] Secondly, all the patients were

Table 1 Positive reactions in patients with therapy-resistant AD

Allergens	No. Reactions with clinical relevance	No. Reactions without clinical relevance
Methylchloroisothiazolinone/ methylisothiazolinone	4	3
Nickel	3	8
Potassium dichromate	2	1
Methylisothiazolinone†	2	1
Cobalt dichloride	2	0
Fragrance mix I	1	0
Fragrance mix II	1	1
Lanolin alcohol	1	0
Goldsodium thiosulphate	1	0
Toluene-2,5-diamine sulphate	1	0
Cocamidopropyl betaine	1	0
Cinnamyl alcohol	1	0
Cinnamic aldehyde	1	0
Ylang Ylang oil	1	0
Thimerosal	0	3
p-Phenylenediamine	0	2
Thiuram mix	0	2
Methyldibromo glutaronitrile	0	2
Neomycin sulphate	0	1
Carba mix	0	1
Octyl gallate	0	1
Phenyl mercuric acetate	0	1
Bronopol	0	1
Dimethylaminopropylamine	0	1
Oleamidopropyl dimethylamine	0	1

†Methylisothiazolinone was not patch tested until 2011.

from the same centre with its own selection bias. Thirdly, some patients with severe AD did not have enough dermatitis-free body areas to patch test and chronic immunosuppressant therapies were directly indicated. Considering the limitations of our work, prospective and multicentre studies would be necessary to evaluate the true scope of path testing in patients with therapy-resistant atopic dermatitis. In this respect, our work increases the recommendation grade of patch test patients with therapy-resistant AD from recommendation grade D (expert opinions) to recommendation grade C (the present cohort retrospective study).[8] In the event that our results would be confirmed, patch testing should be recommended, where feasible, prior to the use of long-term systemic immunosuppressive therapy.

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A case of hypersensitivity reaction to alcohol confirmed by oral provocation test

Editor

Alcoholic beverages may lead to adverse reactions of high variability. Impaired alcohol metabolism, mainly seen in individuals of Asian descent, is known as 'oriental flushing syndrome'.[1] When reactions exclusively occur after selected alcoholic beverages, food additives, i.e. preservatives and dyes, should be considered as possible elicitors.[2] Few reports exist about anaphylactoid reactions to ethanol, the first one dating back to 1983.[3]

We report on a 20-year-old non-atopic Caucasian woman with no comorbidities who presented to our university allergy department with recent history of facial flushing, prickling of palms, generalized urticaria, angioedema, globus sensation and dyspnoea shortly after ingestion of passion fruit liqueur (containing azorubin and tartrazine amongst others). She also reported on rhinitis, globus sensation and prickling of the palms after drinking prosecco, and on another occasion, she had experienced facial flushing, anxiety, prickling in the throat and dizziness, after ingestion of panna cotta with raspberries and egg liqueur. After ingestion of vinegar, she reported on prickling of the oral mucosa.

In addition, she reported on angioedema, abdominal pain, vomiting and collapse 20 min after ingestion of metamizole taken for symptomatic treatment of a common cold.

Skin prick test (ALK-Abelló, Hamburg, Germany) was negative for common inhalative allergens, common food allergens and for native strawberry, raspberry, blackcurrant, passion fruit, passion fruit liqueur, tartrazine, ethanol 96% diluted 1 : 10, ethanol 96% undiluted as well as for acetic acid 0.6%, 1.2% and 9.6%. Intradermal test was positive for metamizole. There was no specific IgE (CAP FEIA; Thermo Fischer, Waltham, USA) detectable for passion fruit, Pru p 3, Bet v 1, ragweed, lactoprotein, guar, tragant or carmine red. Total IgE (38.5 kU/L) and serum tryptase (8.0 μg/L) were within normal range. Cutaneous mastocytosis was ruled out by clinical examination. CD63 expression (Flow-CAST Basophil Activation Test/BAT; Bühlmann Inc, Schönenbuch, Switzerland) was negative for metamizole and tartrazine.

Titrated, single-blind, placebo-controlled oral provocation test (OPT) was performed (Table 1) on two separate occasions and was repeatedly positive for ethanol but not for food additives. The patient was on a potato–rice diet during provocation. The tryptase was within normal range one hour after the first positive reaction to ethanol (9.3 μg/L).

In conclusion, we diagnosed an alcohol-induced hypersensitivity reaction. Even though there are some reports about alcohol/ethanol causing urticaria and anaphylaxis, the exact mechanism remains unknown. Most studies attributed the reaction to the metabolites of ethanol, namely acetic acid and acetaldehyde (Fig. 1).[4] They detected positive prick test to acetaldehyde or/and acetic acid, so an IgE-mediated mechanism was suspected. It also has been shown that acetaldehyde functions as a hapten and specific IgE against acetaldehyde protein complex was detected in the serum of non-patients of Asian descent with severe hypersensitivity reaction to

