

rare missense variants in *CARD14* are involved in the pathogenesis of PPP and provide new genetic insight into the mechanism of PPP development. ■

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Long-lasting allergic contact dermatitis to methylisothiazolinone misdiagnosed as atopic dermatitis

Allergic contact dermatitis (ACD) caused by methylisothiazolinone (MIT) is frequent and skin involvement is often severe [1]. The clinical presentation may be atypical leading to delayed diagnosis, particularly in cases of diffuse or generalized eczema [2]. We report a patient with long-lasting atopic dermatitis-like eczema who was finally diagnosed with ACD due to MIT.

A 51-year-old atopic woman was referred to the Dermato-Allergology Department in 2017 for the management of pruritic eczematiform dermatosis (*figure 1A-D*). The disease had been evolving since February 2011, punctuated by spring flares, affecting the face (including periorbital areas, ears, and cheeks), neck, forearms, elbow folds, and back. Neither skin atrophy, mucosal involvement, nor extra-cutaneous involvement were present. The patient had consulted several dermatologists and allergologists who diagnosed adult atopic dermatitis (AD) and prescribed topical treatments, including emollients and topical corticosteroids.

The patient's past history was remarkable for AD in childhood, asthma, allergic rhinoconjunctivitis, photosensitivity, and TNF-receptor associated autoinflammatory syndrome (TRAPS), which was well controlled by etanercept (weekly injection of 50 mg since 2007). The patient was hospitalized for the treatment of a flare in May 2017. The first diagnostic hypotheses were:

- a flare-up of AD as the patient had a marked history of childhood eczema;
- etanercept hypersensitivity manifesting as eczema or lupus, as previously reported [3];
- skin affected by TRAPS, which can present as a maculopapular or oedematous erythema [4].

Histopathology showed eczematiform changes of the epidermis and a perivascular dermal infiltrate. Direct immunofluorescence was negative. Blood tests showed hypergammaglobulinaemia (6.3 g/L) and an increase in total IgE (232 kU/L). Bioassays for lupus erythematosus were negative.

The allergological work-up revealed:

- sensitization to 2-n-octyl-4-isothiazolin-3-one (+) and MIT (++) using the standard European contact allergen series;
- no sensitization to protein respiratory allergens based on prick and atopy patch tests.

At the end of the hospitalization, the suspected diagnosis was “generalized ACD due to MIT”. A prescription of topical corticosteroids was given. More importantly, the patient was asked to check all her personal products carefully for MIT content and strictly avoid them.

At the follow-up visit, eight weeks later, an excellent skin condition was noted with complete disappearance of the eczema, even though the topical corticosteroids had been stopped for four weeks (*figure 1E*). The patient reportedly had found many personal products containing MIT, such as cosmetics (moisturizing creams, shower gel, and deodorants) and paints recently used for the renovation of her apartment. The total elimination of these products had been carried out the day after leaving hospital. Therefore, the final diagnosis was “generalized allergic contact dermatitis due to MIT”.

In our case, the delay in diagnosis was due to the unusual clinical presentation, moreover, two distinct forms of MIT-induced ACD are believed to exist:

- a classic form of ACD due to skin exposure to MIT-containing cosmetics (our patient presented throughout the year with significant lesions of eczema on the face and limbs which could be attributed to the use of body creams/lotions



Figure 1. Eczematous dermatitis of the face and neck (A, B), forearms (C), and elbow folds (D). E) Complete resolution of the eczema two months after avoidance of methylisothiazolinone (MIT).

and shampoos, and the severe dermatitis of the axillary folds could correspond to an irregular application of deodorant); – an airborne ACD form due to MIT-containing paints.

Regarding the latter, long-lasting evaporation may lead to chronic ACD with features of AD-like dermatosis [5]. In this respect, the patient retrospectively reported that she renovated her apartment almost every spring by painting different rooms herself. She also noted an improvement in the symptoms, with disappearance of facial, and especially nasal, eczema when she was away from home on holiday. The positive reaction to octylisothiazolinone probably represents cross-reactivity to MIT [6]. In conclusion, ACD due to MIT should be considered when managing patients with generalized, severe or atypical eczema. ■

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Is the high risk of anaphylaxis to omalizumab a contraindication to this treatment?

Omalizumab is a recombinant humanized monoclonal antibody (mAb) targeting IgE, produced using Chinese hamster ovary (CHO) cell culture. It has been approved for the treatment of severe allergic asthma (SAA) and chronic urticaria but not for allergic rhinitis (AR), atopic dermatitis (AD) or food allergy, despite some benefits against these diseases [1]. Omalizumab treatment associated with allergen immunotherapy (AIT) can increase the tolerability of AIT [1]. Some anaphylactic reactions have been described with omalizumab [2]. We report a patient with severe AD and a high risk of anaphylaxis, for whom omalizumab therapy was effective and safe, followed by successful oral AIT with cow's milk and hen's egg proteins.

A 49-year-old female non-smoker with no domestic or occupational allergenic exposure presented to our hospital for the management of severe refractory AD present since infancy. She had SAA and AR with symptoms when exposed to pneumallergens and anaphylaxis grade III [3] to trophallergens. The serum level of total and specific IgE is summarised in *table 1*. Tryptase level was 10.7 $\mu\text{g/L}$ (normal value $\leq 13.5 \mu\text{g/L}$). Her AD score (SCORAD) was 74.65 (severe dermatitis) [4] and asthma control questionnaire (ACQ7) score was 2.2 (uncontrolled asthma) [5], despite maximal treatment (local application of tacrolimus, tridesonide, emollient creams, cetirizine at 10 mg/day, and salmeterol/fluticasone at 50/500 μg , 2 $\times$ 1 inhalation/day) and avoidance of allergens. After several therapeutic failures (cyclosporine, methotrexate-corticosteroids, and azathioprine), we decided, following a multidisciplinary meeting (with a dermatologist, pulmonologist, and allergist), to initiate omalizumab. The risk factors for anaphylaxis due to omalizumab [2] identified for this patient were: female gender, Caucasian race, food

Table 1. Clinical data of the patient.

Allergenic source	Symptoms	Specific IgE (kU/L)
Hamster (epithelia)		14.0
Cat dander	Severe asthma	60.5
Dog dander	Atopic dermatitis	28.7
House dust mite		232
Grass pollen	Rhino conjunctivitis	29.5
Cow's milk		42.6
Hen's egg	Digestive symptoms	33.7
Pork meat		16.9
Alpha-Gal		0.32
Total IgE (UI/mL)		4758