CONTACT POINTS

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A review of allergens found in current hair-care products

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Key words: conditioner; dyes; hair-care products; hair gel; hair spray; mousse; shampoo.

Hair-care products in current use may contain important allergens not tested by existing patch-test series. The aim of our study was to review the ingredients of several hair-care products in current use to identify potential new allergens.

Materials and Methods

The ingredients of hair-care products from different brands were reviewed in 4 local hairdressing salons. The products were categorized into 3 groups for analysis of their

Table 1. Plant derivatives and non-standard dyes in hair-care products

Product	Plant derivatives		Dyes	
Colours/bleaches	*Oryza sativa* (rice grain)		Acid Red 92	C1 723/1
			Acid Yellow 1	C1 6893/1
			Basic Yellow 57	C1 3475/1
			Basic Yellow 87	C1 2776/1
			Basic Brown 17	C1 3081/3
			Basic Red 76	FD + C Yellow 6
			Basic Orange 31	Ultramarine Blue
			Basic Blue 77	Titanium dioxide
			Disperse Red 17	HC Yellow No. 2
			Tetrabromophenol Blue	
Shampoos/conditioners	Algae	*Saponaria officinalis*	Red No. 4	
	Wheat germ oil	*Lawsonia inermis* (Henna)	D + C Red No. 33	
	Lemon grass	*Aloe barbadensis* leaf	FD + C Yellow No. 6	
	Anthemis nobilis	*Rosamarinus officinalis* (rosemary)	FD + C Blue No. 1	
	Sage leaf	Hydrolyzed wheat protein and starch		
	Nettle (*Urtica dioica*)	*Simmondsia chinesis* (Jojoba)		
	Hydrolyzed soy protein	Chamomile (*Anthemis nobilis*)		
Styling gels/mousses/ perms	*Achillea millefolium*	Wheat protein (hydrolyzed) and oil	FD + C Blue 1	Ext.D + C Violet 2
	Birch (*Betula alba*) leaf	Castor seed oil	FD + C Yellow 5	Red No. 4
	Canaga odorata	*Carthamus tinctorius* (Safflower)	FD + C Yellow 6	Acid Red 7
	Cera alba (bees wax)	*Chammolia recutita* (Matricaria)	D + C Red 33	Acid Red 34
	Citrus grandis	*Cymbopogen schoenanthus*	D + C Orange 4	D + C Red 30
	Gentian (*Gentiana lutea*)	*Euphorbia cerifera* (*Candella cera*) wax	Ultramarine Blue	Titanium dioxide
	Algae	*Thymus vulgaris*	Acid Yellow 3	
	Juniperus communis	Leaf *Humulus Lupus* (hops)	Chromium oxide greens	
	Lemon grass	*Mellissa officinalis* leaf		
	Ocimum basilicum	*Pimenta dioica*		
	Pogostemon cablin	Indian cress (*Tropaeolum majus*)		
	Sage leaf	*Rosamariunus officinalis* (rosemary)		
	Santalum album	*Saponaria officinalis*		
	Triticum vulgare	*Simmondsia chinensis* (Jojoba) seed oil		
	Helianthus anuus (sunflower oil and seed acid)			

ingredients: colours/bleaches, shampoos/conditioners and styling gels/mousses/perms.

Results

36 hair-care products (12 colours/bleaches, 4 shampoos/conditioners and 20 styling gels/mousses/perms) from 14 different brands were analysed. In addition to allergens tested by the existing standard, hairdressing and facial series, numerous plant derivatives and non-standard dyes were identified as summarized in Table 1. Sunscreens benzophenone-3 and benzophenone-4 were found in styling gels/mousses/perms.

Discussion

Our survey identified a wide range of non-standard dyes, plant derivatives, sunscreens and preservatives not tested by existing batteries, which may occasionally cause sensitization or irritant reactions.

Plant derivatives such as hydrolyzed wheat protein detected in our survey have been reported as an emerging new allergen causing allergic contact dermatitis (1). Acid Yellow 1, Basic Brown 17 and HC Yellow 2 identified in our study were among the dyes categorized as strong/moderate sensitizers by Søsted et al. (2) Cases of allergic contact dermatitis, photo-contact dermatitis and photo-allergic contact urticaria due to sunscreens found in hair-care products identified in our survey have been previously reported (3, 4).

In summary, our survey has shown potential allergens not tested by existing patch-test series used to test possible allergic contact dermatitis to hair-care products. We highlight the importance of testing patients' own products and/or product ingredients where there is a high suspicion of allergic contact dermatitis to hair-care products despite negative test results to existing series.

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Aggravation of rosacea by protein contact dermatitis to soy

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Key words: botanicals; cosmeceuticals; protein contact dermatitis; rosacea; soy.

Case Report

A 43-year-old woman presented with a 4-year history of a dramatic erythematous eruption of the cheeks and nasal tip. She had rosacea, but had failed topical and systemic treatment. Her history also included seborrheic dermatitis, lifelong atopic eczema and reactions to jewellery, perfumes and certain cosmetics. She had stopped wearing makeup, but was using several other topicals on her face, 5 of which contained soy. On examination, she had erythema of the nasal tip and erythematous plaques with fine scale and pustules on the cheeks. There was partially eczematized seborrheic dermatitis of the scalp.

Previous patch testing had shown ++ reactions to neomycin and glyceryl monothioglycolate and + reactions to fragrance mix, Amerchol 101, and methylisothiazolinone/methylchloroisothiazolinone. Prior prick-test results revealed reactions to a variety of protein antigens, including ++++ reactions to cat dander and dust mite, as well as +++ reactions to soy and dog dander (histamine control +++).

The patient was patch tested to a standard series, antiseborrheic agents, vinyl gloves, dust mite 10% and 0.1% pet. and topical corticosteroids without propylene glycol. ANA testing was negative. A culture of eczematized skin grew *Staphylococcus aureus*.

The patient was treated with 1% hydrocortisone ointment applied for 2 days to the cheeks with a vinyl glove, oral erythromycin and clobetasol foam to the scalp. She was asked to discontinue her other facial products, particularly those containing soy.

At 48 hr, her cheek erythema and oedema had resolved, leaving only telangiectasias and a few pustules. By 96 hr, the pustules had cleared, and the seborrheic dermatitis was nearly clear.

Patch test results showed a + reaction to methylisothiazolinone/methylchloroisothiazolinone and doubtful (+/–) reactions to rosemary, nickel, formaldehyde, marshmallow, cardamom and borage.

Discussion

Soy has become a popular cosmeceutical ingredient, as some studies have claimed it can reduce hyperpigmentation (1, 2), reverse the effects of aging (3, 4), improve skin elasticity and viscosity (5) and have antitumour activity (6–9). Like other botanical ingredients, soy and grains are potential sensitizers. Contact dermatitis to soybean extract in a cosmetic cream was first described in 2001 in a patient with facial erythema and swelling, who had both immediate and delayed patch test reactions (10). Reactions have also been reported to a number of other grains, including rice (11), wheat (12) and cornstarch (13, 14).

In this case, the rapid clearing of the patient's facial eruption after discontinuing soy-containing products suggests that contact dermatitis to protein antigens such as soy may aggravate other facial dermatoses. A search for the allergenic agent(s) in cosmetics and other personal-care

products (15) is indicated in cases of suspected cosmetic reactions.

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Protein contact dermatitis by fishing bait (*Lumbrinereis latreilli*)

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Key words: eczema; fishing bait; lumbrinereis lateilli; protein contact dermatitis.

Protein contact dermatitis is a form of allergic contact dermatitis caused by high-molecular-weight proteins. The presentation of this form of contact dermatitis is normally as chronic eczema, with acute exacerbations within some minutes of exposure to the offending allergen (1).

The process is thought to be due to combined type I (immediate) and type IV (delayed) immunoglobulin E (IgE) hypersensitivity.

Diagnosis is made by prick tests using the causative protein to which the patient will develop an urticarial reaction within 20 min (2, 3).

A great variety of cases of allergy to fishing bait showing respiratory symptoms such as asthma, rhinoconjunctivitis and urticaria have been described (4). Protein contact dermatitis due to *Calliphora vomitoria* has been reported (5, 6).

Case Report

A 27-year-old man, working as a building worker, had been suffering from eczema in the first, second and third finger and in the palms of both hands for 1 year.

He usually suffered from itching and oedema of his both hands when he manipulated fishing baits. He identified them as sea worms and used to pick them up off the beach himself.

In our case, the offending allergen is a sea worm, genus *Lumbrinereis*, family Lumbrinereidae, order Errantia, class Polychaeta.

Once the patient avoided the sea worm contact, the eczema gradually improved until total disappearance.

He is still working in his job without any skin problem.

Methods and Results

All skin prick tests to different extracts from a standard battery (pollens, mites, molds and foods) were negative.

Both prick-by-prick to *Lumbrinereis latreilli and* prick test to *L. latreilli* extract were positive (7×8 and 12×11, respectively).

Patch test was negative to all the chemical products from standard and specific building group patch test battery. Patch test with *L. latreilli* extract was also negative.

Serum-specific IgE was 1.1 kU/l (class 2) to sea worm, 0.4 kU/l (class 1) to *Sipunculus nudus* (peanut worm) and <0.35 kU/l (class 0) to other worm species (*Glycera dibranquiata* and *Paranereis acrata*).

Molecular mass of allergens was studied by means of sodium dodecyl sulfate–polyacrylamide gel electrophoresis immunoblotting; after protein electrotransfereance and incubation with patient serum, IgE-binding bands of 57 kDa, 38 kDa and 26 kDa were revealed in *L. latreilli* extract, a single 104 kDa band in peanut worm extract, and no IgE-binding bands appeared in other worm extracts studied.

Conclusions

We report the case of a patient with protein-contact dermatitis by sea worm (*Lumbrinereis latreilli*). At the beginning, it was thought to be a professional dermatitis just because the patient was a builder. However,

our results confirm the existence of an IgE-mediated mechanism. Several IgE-binding proteins with different molecular masses were detected.

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Eyelid dermatitis caused by an eyelash former

Contact Dermatitis 2005: 53: 237

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Key words: contact dermatitis; delayed-type hypersensitivity; dermatitis; eyelash former; eyelid; nickel.

Delayed-type hypersensitivity (DTH) to metals is a frequently encountered problem and can be the cause of significant morbidity to patients (1). The source of the allergen is sometimes difficult to identify.



Fig. 1. Clinical picture of allergic contact dermatitis caused by a nickel-containing eyelash former.

Case Report

A 24-year-old woman presented with a 6 months history of eyelid dermatitis. She used contact lenses for the last 2 years and admitted to frequently use diverse cosmetics. Clinical investigation revealed symmetric erythema of both eyelids along with moderate infiltration and minimal fine scaling (Fig. 1). History, physical examination, measurements of serum immunoglobulin E and skin prick tests using a panel of aeroallergens yielded no hints towards atopy.

Patch tests using the European Standard series of contact allergens along with cosmetics, emollients and fragrances along with those products used by the patient yielded a positive result only to nickel. It was not until taking the patient's history again and explicitly questioning her regarding the use of a metal eyelash former that she mentioned to use such an instrument regularly (Fig. 1). The patient was asked to discontinue its use, and hydrocortisone 0.5% ointment was prescribed for short-term treatment. Upon follow-up, 3 months later, the patient reported rapid clearing and lack of relapse.

Discussion

The patient here described exhibits the hallmarks of eyelid dermatitis in as much as it is frequently caused by DTH (2) with metals in general and nickel in particular as the most relevant contact allergens (3,4). Despite this being a fairly common case, the exact trigger of the allergic contact dermatitis would have been missed if it was not explicitly suspected by one of the investigators (Ulrike Henke). We conclude that balanced gender representation among allergologists is helpful in unravelling the cause of eyelid dermatitis.

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Is patch testing for PPD routinely necessary in patients with reactions to henna tattoos?

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Key words: patch test; PPD; henna tattoos.

Para-phenylenediamine (PPD) is frequently added into henna tattoo mixtures to decrease application time and as a darkening-enhancing agent. It is known to be a strong sensitiser; henna on the other hand has a low allergenicity.

Ho et al. (1) have suggested that a lower concentration of PPD be used in patch testing patients with reactions to temporary henna tattoos, as blistering reactions are common with the current practice of using PPD 1% pet. As most cases of contact dermatitis following the application of henna tattoos are due to PPD allergy, we would argue that it is not appropriate to routinely patch test these patients, and that this should be done only if it is felt to be clinically necessary.

58 cases of contact dermatitis following the use of henna tattoos have been reported, and 42 of these patients had patch testing documented. 83%(35) were positive to PPD. Other positives included henna, azo-dyes and fragrance mix.

Patients presenting with contact dermatitis following the application of henna tattoo are often patch tested to PPD. This carries a risk of active sensitization (2), post-inflammatory hyperpigmentation and sensitization to other related allergens (PABA, sulphonamides and benzocaine). In addition, in view of the potential severe reactions following patch testing to PPD in patients sensitized by henna tattoos, it would seem reasonable not to routinely patch test these patients. Patients should be warned that they are likely to be allergic to PPD and, if this needs to be confirmed, patch testing using the diluted regime as suggested by Ho et al. should be done.

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Allergic contact dermatitis from shellac in mascara

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Key words: allergic contact dermatitis; eyelids; shellac; mascara; curling agent; repeated open application test; cosmetics.

Case Report

A 41-year-old lady, with a history of allergic asthma but no previous dermatitis, was referred for patch testing after 2 episodes of eyelid dermatitis which she related to a Diorshow® mascara. In fact, the problem had disappeared upon discontinuation of the mascara and had recurred after its reapplication (Fig. 1).

Patch tests, performed with the Società Italiana di Dermatologia Allergologica e Professionale (SIDAPA) standard series, were negative. A semi-open patch test with the mascara was negative as well. On the contrary, a repeated open application test performed with the mascara in the antecubital fossa was positive within 3 days.

Through mediation of an International Observatory of Cosmetics (IRIS, Marly le-Roi, France), the manufacturer provided samples of the mascara ingredients, appropriately diluted for patch testing. The patient was patch tested with this substances and reacted to shellac, 5% aq. with trietanolamine 5% as emulsifier (+ at D2 and D3). Patch testing with 5% pet. trietanolamine was negative. No positive reactions were seen in 15 controls patch tested with shellac 5% aq + 5% trietanolamine.

The patient now uses a shellac-free mascara without any problem.

Discussion

Shellac, or gomme-laque, CAS number [9000-59-3], is the resinous secretion of *Coccus lacca,* an insect that feeds on certain trees in southern Asia, from which it is collected and purified. Processed shellac has emollient and film-forming properties and is thus used in the production of cosmetics such as hair sprays, nail polishes, lipsticks, eyeliners and mascaras, in which it acts as a curling agent.

Shellac is said to have both irritant and sensitizing properties, but has seldom been reported as a cause of allergic contact dermatitis, mainly from mascaras and lipsticks (1–3). To the best of our knowledge, 7 cases of contact dermatitis from shellac in mascaras have been reported to date (1, 3). In all cases, patch testing was performed with shellac 20% ethanol. Our case confirms the role of shellac as a relevant, maybe under-recognized contact allergen in cosmetics. Also, it shows that a 5% aqueous solution with 5% trietanolamine is an effective, possibly less irritant alternative to the



Fig. 1. Recurrance of eyelid dermatitis after reapplication of mascara.

commonly recommended 20% ethanol dilution.

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Milia as sequelae to allergic contact dermatitis

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Key words: allergic contact dermatitis; chloroatranol; milia; oak moss.

Milia are small sub epidermal keratin cysts that may occur as an eruptive phenomenon after a bullous disorder disrupting the dermo–epidermal junction. Eruptive milia are a rare complication to allergic contact dermatitis.

Case Report

A 54-year-old man known with contact allergy to oak moss participated in a dose–response repeated open application test (ROAT) with chloroatranol, which is a potent allergen in oak moss (1). The patient reacted to a patch test dilution series of chloroatranol in ethanol down to 0.0063 p.p.m., and started a ROAT by a single application of 2 drops of a 5 p.p.m. solution to an area of 3 × 3 centimetres on the volar aspect of one forearm. Within 1 day, he developed severe oedematous dermatitis and blistering was seen at day 2 (Fig. 1). Further applications were omitted, the patient was treated with systemic prednisolone, and the dermatitis healed as expected.

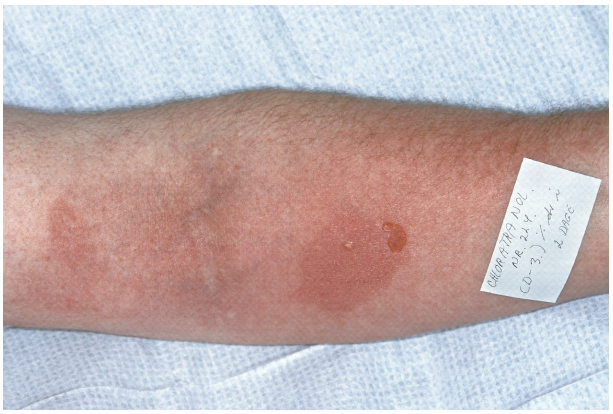


Fig. 1. Acute allergic contact dermatitis on the volar aspect of the forearm 2 days after starting repeated open application test (ROAT) with one single application of 2 drops of chloroatranol 5 p.p.m. in ethanolthe allergen.



Fig. 2. Milia at the application site 3 months after the acute dermatitis elicited by the repeated open application test (ROAT) episode of allergic contact dermatitis.

At a 3 month control visit, milia were seen located to the ROAT application site on the forearm (Fig. 2) but not on the back where the patch tests were applied. The patient had no subjective symptoms, and the milia were easily removed with a sterile needle.

Discussion

Milia have previously been reported as a rare complication to allergic contact dermatitis (2, 3).The presence of milia seems to reflect the depth and severity of the allergic contact dermatitis, developed months earlier in this patient. This observation underlines the potency of chloroatranol as a very strong allergen. ROAT is a standardized exposure test where dermatitis develops in sensitized individuals after few days to several weeks repeated open applications with the allergen (4). This unusual case of a strong bullous reaction after a single open application is very rare and must not defer dermatologist from using this type of exposure test to verify the clinical importance of a positive allergic test in selected cases.

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Generalized dermatitis due to codeine. Cross-sensitization among opium alkaloids

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Opium alkaloids can cause immunological reactions. Cross-sensitization among them must be considered in these situations.

Key words: codeine; cross-sensitization; dermatitis; morphine; opioid; opium alkaloids; patch test.

Codeine is an opioid agonist employed as analgesic or antitussive. We report 3 patients who developed generalized dermatitis due to oral codeine.

Case Report

A 38-year-old woman and a 26-year-old woman developed a pruriginous generalized maculopapular eruption after receiving treatment with codeine. In the first patient, dermatitis appeared 1 hr after she had 10 mg of oral codeine. A 26-year-old woman had oral Cod-efferalgan® (codeine 30 mg and paracetamol 500 mg) 4 hr before. Cutaneous lesions disappeared in both patients in 1 week treatment with oral corticosteroids and anti-histamines. No skin desquamation or residual lesions were observed.

As we had referred previously, (1) a 72-year-old man developed a pruriginous generalized maculopapular eruption 12 hr after he had oral Cod-efferalgan®. Skin lesions disappeared without any treatment in a week after skin desquamation.

Later on, second and third patients tolerated paracetamol without problems by themselves.

Methods and results

Patch tests were performed on all the patients and 5 volunteers. They were applied to the patients' back using Leukotest® (Beiersdorf AG, Hamburg, Germany) and removed after 48 hr. Readings were carried out at 48 hr and 96 hr, as recommended by the International Contact Dermatitis Research Group (ICDRG). If patch tests were positive, patient was considered allergic to that substance. Substances tested were the following: Codeine phosphate (5% pet.), morphine chloride (5% pet.), pentazocine (5% pet.) and tramadol (5% pet.). Petrolatum was tested as negative control.

Grading of patch test results, as ICDRG recommends, were + (weak positive); ++ (strong positive); +++ (severe positive).

Patch tests to codeine and morphine were positive in the 3 subjects (patient 1: Codeine +++, Morphine ++; patient 2: Codeine +++, Morphine ++; patient 3: Codeine +++, Morphine ++). Negative results to the other allergens tested were observed in all the patients. Patch tests with all these drugs were negative in the 5 healthy controls.

Discussion

Codeine has a lower incidence of side-effects than other opioid drugs. Codeine more frequent adverse effects are ataxia, miosis, swelling, nausea and vomiting, drowsiness and dizziness. Pruritus and urticaria usually are caused by non-immunological induction of histamine release, but codeine has also been related to maculopapular eruptions, angioneurotic oedema, fixed drug eruption, bullous eruption, multiform erythema, erythema nodosum, scarlatiniform rashes, or toxic epidermal necrolysis (2). Contact dermatitis from opium derivatives in pharmaceutical workers, nurses and doctors has also been described previously (3).

Cross-sensitization among opium alkaloids due to delayed-type allergy has been described by De Groot and Conemans (2). In our patients, cross-reactivity appeared between codeine and morphine. Both of them have a very similar chemical structure. Pentazocine and tramadol are structurally very different from codeine. No cross-sensitization between pentazocine or tramadol and codeine was demonstrated.

Opium alkaloids adverse effects are frequently due to a non-specifically histamine release, but we cannot forget that immunological reactions are not rare. Positive patch tests to codeine and morphine suggest a type IV allergic mechanism as responsible for these reactions.

Patients sensitized to codeine must avoid using morphine and other opioids with analogous chemical structure to them. Nevertheless they could employ other opium alkaloids structurally different such as pentazocine or tramadol.

We report 3 patients who developed generalized dermatitis caused by oral codeine probably due to a type IV immunological mechanism. Cross-sensitization among opium alkaloids should be considered when these type IV reactions occurred.

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Contact allergy from phenoxyethanol in Fitostimoline® gauzes

Contact Dermatitis 2005: 53: 241

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Key words: allergic contact dermatitis; Euxyl® K400; Fitostimoline®; methyldibromo glutaronitrile; occlusive dressing; phenoxyethanol; polysensitized patient; stasis dermatitis; topical medicaments.

Case Report

To treat her venous insufficiency and recurrent leg ulcers, a 67-year-old lady had used a vast array of medications for over 6 years, eventually developing severe oozing eczema of her legs. Patch testing with the Società Italiana di Dermatologia Allergologica e Professionale (SIDAPA) standard series revealed sensitization from fragrance mix (+), balsam of Peru (+), colophony (+), benzocaine (+), parabens mix (+) and Euxyl® K400 (++). As the patient's medicaments included Fitostimoline® gauzes, a phenoxyethanol-containing dressing, she was further patch tested with the Euxyl® K400 components, 0.3% methyldibromo glutaronitrile (MDBGN) and 1% 2-phenoxyethanol (2-PE) and the Fitostimoline gauze as is. Readings at D2 and D4 showed neat 1+ reactions to both MDBGN and 2-PE to the gauze.

The patient was turned onto fragrances-, benzocaine- and preservative-free dressings and was told to use a not-scented, preservative-free soap, and her eczema cleared within a month.

Comment

Phenoxyethanol is a preservative added to cosmetics and pharmaceuticals as a single agent or in combination with other preservatives, up to a maximum allowed concentration of 1%. Euxyl® K400 is the trademark of the 4:1 mixture of 2-PE/MDBGN. While contact allergy to MDBGN has increased throughout the 1990s parallel to the increasing use of Euxyl K400 in cosmetics and skin care products, 2-PE appears to have very low sensitizing potency (1), and despite its widespread use, it is described as a rare cause of delayed (2–6) and immediate (7, 8) contact reactions.

2-Phenoxyethanol is effective against a broad spectrum of microorganism, particularly *Pseudomonas aeruginosa*, and as early as 1944, 2-PE-soaked compresses were recommended for skin infections. Because of these antimicrobial properties, it enters, at a 1% concentration and without MDBGN, the composition of Fitostimoline®, a topical medicament widely used in Italy, in the form of cream or greasy gauzes, to treat wounds and skin abrasions.

To the best of our knowledge, contact allergy to this medicament, commonly regarded as non-allergenic, has never been reported before. Our case shows that even a very low sensitization risk does not guarantee safety, particularly in patients with stasis dermatitis and leg ulcers who are commonly treated with multiple topical drugs and occlusive dressings, a condition appropriately described by Avalos-Peralta et al. (9) as a 'quasi-experimental model of sensitization'.

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Contact allergy to octocrylene in sunscreen with recurrence from passive transfer of a cosmetic

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Key words: contact allergy; octocrylene.

Contact allergy and photoallergy to ultraviolet (UV) filters is well recognized. Contact allergy is unusual in children due to their lesser exposure to allergens, but it does occur. We report 2 cases of contact allergy to octocrylene in children. Passive allergen transmission and subsequent dermatitis were seen in 1 case.

Case Report

Case 1

A 3-year-old boy was presented with a severe vesicular eruption over the face and arm, following application

of Ambre solaire kids milk sunscreen SPF 60®. Patch testing using Finn chambers® on Scanpor tape was performed to the standard series, UV filter series and the sunscreen. At D2 and D4, ++ reactions were seen to octocrylene (10% in pet.), + reaction to wool alcohols (30% in pet.), + reaction to amerchol (50% in pet.) and ++ to the sunscreen. Octocrylene was found to be present in Ambre solaire kids milk sunscreen SPF 60®. Avoidance advice was given accordingly and the patient referred for photopatch testing to rule out the possibility of augmented photoallergy to octocrylene. Photo-patch tests were then performed to a UV filter series of photoallergens. Strong ++ reactions were again noted to octocrylene (10% in pet.). The same grade of reaction was seen on UVA-irradiated and control sites. Thus, no evidence of octocrylene photoallergy was found. 3 years later, the patient presented with an acute rash on the right side of his face. 1 day before presentation, he had been kissed by his aunt who was wearing a Lancome® moisturiser. Further patch testing was carried out. There was a ++ reaction to this moisturiser on D2 and D4, and it was found to contain octocrylene but not lanolin as an ingredient.

Case 2

A 10-year-old boy was seen with an erythematous eruption over the face and arms, 1 week after the application of Boots Soltan Baby sunscreen lotion®. Patch testing using Finn chambers® on Scanpor tape was performed to the standard series, UV filter series and the sunscreen. At D2 and D4, ++ reactions were seen to octocrylene (10% in pet.), fragrance mix, budesonide and balsam of Peru. Photopatch tests are awaited.

Discussion

UV filters may be found not only in sunscreens but also in other facial cosmetics and toiletries. Public awareness of the beneficial effects of adequate sun protection has led to an increase in the use of UV filters. Irritant reactions to UV filters are stated to be common (1). Following the increasing use of these agents, the incidence of sensitization and photosensitization rates to UV filters has risen (2).

UV filters are the now the most frequent photoallergens (3). This is especially true in sun-sensitive patients where allergy to UV filters occurs in 5–16% of such patients tested (2, 4).

Of those allergies reported, benzophenone 3 (oxybenzone, Eusolex® 4360) is most frequently implicated in allergic and photoallergic reactions (4, 5), followed by isopropyl and butyl methoxy dibenzoyl methane (Eusolex® 8020 and Parsol® 1789, respectively) (6).

Octocrylene (2-ethylhexyl-2-cyano-3,3-diphenyl acrylate), a cinnamate, is a relatively new UVB-absorbing filter (7). 2 cases of photoallergy to octocrylene have recently been reported (5). To the best of our knowledge, this is the first report of straight contact allergy to octocrylene.

Balsam of Peru and fragrance mix are markers of allergy to perfumes which are widely used in sunscreens and cosmetics. Positive patch test reactions to these agents are common in patients with concomitant contact allergy/photoallergy to UV filters, as was seen in case 2 (8, 9).

Finally, consort contact allergy from close contact with a connubial partner is well recognized (10, 11). However, as seen in case 1, even a short-lived contact with a cosmetic worn by a relative may be sufficient to induce a significant allergic reaction.

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Contact dermatitis to hydrocortisone aceponate in Efficort® cream inducing widespread reaction

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Key words: eczema; Efficort; hydrocortisone aceponate.

Case Report

A 37-year-old woman presented with chronic hand dermatitis of 14 years duration. She was treated with several topical remedies without success, including corticosteroids. There was no history of atopy or drug intake. When she started to apply Efficort® 0.127% lipophile cream (hydrocortisone aceponate), she developed

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Table 1. Results of patch tests performed with corticosteroids

Tests	48 h	72 h
Amcinonide 0.1% pet.	–	–
Betamethasone-17-valerate 1% pet.	–	–
Clobetasol-17-propionate 0.25% pet.	–	–
Dexamethasone 1% pet.	–	–
Hydrocortisone 1% pet.	–	–
Hydrocortisone-17-butyrate 1% pet.	+	+
Prednisolone 1% pet.	–	–
Triamcinolone acetonide 1% pet.	–	–
Budesonide 0.1% pet.	+	+
Efficort® lipophile cream as is	+	+
Hydrocortisone aceponate 0.127% pet.	+	+
Pet.	–	–

within 15 days widespread plaques of eczema on her face, arms, trunk and thighs, in addition to an acute eczema of the dorsa of her hands. Patch testing with the European standard series, preservatives, antiseptics, rubber, corticosteroids series and Efficort® 0.127% lipophile cream as is showed at 48 h and 72 h a strong positive reaction to hydrocortisone-17-butyrate, budesonide and Efficort® 0.127% lipophile cream (Table 1). Complementary tests with all components of Efficort® 0.127% lipophile cream showed at 48 h and 72 h a strong positive reaction to hydrocortisone aceponate 0.127% pet. By avoiding the contact with Efficort® 0.127% lipophile cream, there was a complete remission within 10 days.

Discussion

Contact dermatitis to topical corticosteroids is a well-documented condition. However, the diagnosis and assessment of the clinical relevance remains challenging. The distant reaction elicited in this case bears a resemblance to a previous one reported by Weber et al. (1). Conversely, this report showed an eczematous reaction at the site of application, revealing a direct relation between Efficort® 0.127% lipophile cream and the worsening eczema. While hydrocortisone aceponate allergy was revealed in this patient by routine patch tests, the previous report required the performance of repeated open-application test (ROAT) when patch testing with standard and serial dilutions have been negative. According to the classification of corticosteroids allergy group, our patient showed a cross-sensitivity between class B (budesonide) and D2 (hydrocortisone aceponate) (2). By contrast, Isaksson et al. established the clinical relevance of contact allergy to budesonide in patients with concurrent hypersensitivity to nickel sulphate (3). She showed that distant ipsilateral toxicoderma-like lesions were seen when budesonide was applied to experimental nickel eczema in subjects allergic to budesonide. Furthermore, she pointed out that a ROAT should be performed on diseased skin rather than on normal skin, as corticosteroids are never used on skin lacking dermatitis. The distant reaction to hydrocortisone aceponate observed in this case could be related to systemic contact dermatitis previously described with nickel and hormonal treatment (4).

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Allergic contact dermatitis due to adipic polyester in vinyl chloride gloves

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Key words: adipic polyester; allergic contact dermatitis; vinyl chloride glove.

Case Report

A 72-year-old female farmer had been suffering from severe pruritic eruption on her hands and forearms for about 5 years. She noticed it several months after using vinyl chloride gloves. The skin lesion consisted of pigmentation, lichenification and erythematous papules associated with depigmentation of both hands and forearms (Fig. 1). We performed patch testing, and she showed positive reaction to vinyl chloride gloves (as is) at D2, D3 and D7. We also attempted to iden- tify the exact cause of contact dermatitis at a chemical level. For this purpose,we carried out patch testing using 10 ingredients present in the vinyl chloride glove. She showed positive reaction only to adipic polyester (5% pet.) at D2, D3 and D7. Three control subjects did not show any reaction to the vinyl chloride gloves (as is) or to adipic polyester (5% pet.). Thus, we diagnosed the patient as having allergic contact dermatitis due to adipic polyester in vinyl chloride gloves. She was advised to stop using the vinyl chloride gloves and instead to wear rubber nitrile gloves that lack adipic polyester. After following this advice, she reported remission of the skin symptoms.



Fig. 1. Pigmentation, lichenification and erythematous papules associated with depigmentation on both hands and forearms.

Discussion

Contact dermatitis due to vinyl chloride glove is rare (1–3). Hosono et al. (1) reported 5 cases of allergic contact dermatitis due to vinyl gloves. Among these, 1 patient showed doubtful positive reaction to adipic polyester 10% pet. Following this report, Sugiura et al. (2) reported an additional case of allergic contact dermatitis due to vinyl chloride gloves; the case showed a strong positive reaction to the extract containing adipic polyesters, but the reaction to an adipic polyester 5% pet. was negative. In addition, we reported herewith the first case of allergic contact dermatitis caused by adipic polyester that was definitely confirmed by patch test using adipic polyester 5% pet.

Adipic polyester is a polymer of adipic acid and propylene glycol and used as plasticizer in vinyl chloride gloves (1). Guin (4) reported allergic contact dermatitis caused by adipic acid used in polyester synthesis. Hosono et al. (1) performed patch testing for both adipic acid and propylene glycol in the patient with doubtful positive reaction to adipic polyester described above, but there were negative reactions to both materials. However, we could not perform patch testing for either material, because patient did not consent to do it.

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