

Short Communications

Prurigo-nodularis-like lesion in parthenium dermatitis

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Key words: prurigo nodularis; allergic contact dermatitis; parthenium; Compositae; plants; azathioprine. © Munksgaard, 2000.

Around 80% of patients with prurigo nodularis (1) are atopic, even in the absence of eczema, and in 20%, the condition starts after an insect bite (2, 3).

Case Reports

Case no. 1

A 46-year-old junior assistant had had dermatitis over his face, neck and extremities for the last 3 years, with summer exacerbation. There was no personal or family history of atopy. 1 year on, he developed nodules over the extremities, trunk, face and neck. On examination, he had dermatitis on the upper eyelids and neck, with hyperkeratotic nodules over the upper extremities, face and trunk.

Patch tests were positive to Compositae like parthenium, sunflower, xanthium and marigold. Skin biopsy from a nodule showed hyperkeratosis, parakeratosis, acanthosis, increased collagen and proliferation of dermal nerves, consistent with prurigo nodularis. The patient was treated with azathioprine 50 mg orally 2× a day, with improvement over 3 months.

Case no. 2

A 50-year-old electrical engineer presented with a 15-year history of dermatitis, with summer exacerbation. At the onset, he had dermatitis over the face, which gradually spread to the cubital and popliteal fossae, neck and extremities. There was no personal or family history of atopy.

Patch tests were positive to parthenium and nickel sulfate. 2 years later, prurigo-like lesions appeared over the face and forearms. He did not experience photosensitivity. Skin biopsy from the forehead was consistent with prurigo nodularis. The patient was prescribed azathioprine 50 mg orally 2× daily, with improvement in 2 months.

Case no. 3

A 62-year-old deputy collector presented with a 4-year history of itchy erythematous papules over the face, neck and forearms, along with photosensitivity. There was no personal or family history of atopy. Examination re-

vealed multiple papules over exposed sites like the face, forearms and legs, sparing the nasolabial, retroauricular and other skin folds. He had papulonodules over the forearms and legs. He was diagnosed as having photosensitivity dermatitis/actinic reticuloid syndrome (PD-AR), with nodular prurigo.

Patch tests were positive to parthenium and photopatching was not done. Skin biopsy from a papulonodule showed hyperkeratosis, acanthosis and increased collagen, though no proliferation of dermal nerves.

Discussion

The association of contact dermatitis with prurigo nodularis was documented in a study of 32 patients, 25 of whom had positive patch tests, including to ragweed (4). There are other case reports of prurigo-like lesions in contact dermatitis (5). The lack of a significant infiltrate in the dermis contrasts with actinic reticuloid, which has a dense lymphocytic dermal infiltrate.

The above cases, to the best of our knowledge, are the 1st reports of prurigo-nodularis-like lesions in patients with parthenium dermatitis. Azathioprine is effective in both prurigo nodularis and parthenium dermatitis (6, 7), and was successful in the 1st 2 patients.

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Allergic contact dermatitis from carrot

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Key words: allergic contact dermatitis; carrot; celery; ivy; falcarinol; foods; vegetables; plants; Umbelliferae; Araliaceae; *Daucus carota*; *Apium graveolens*; *Hedera helix*. © Munksgaard, 2000.

Case Report

A 38-year-old man presented with a 30-year history of recurrent dermatitis, particularly on the hands. He additionally complained of a single episode of facial dermatitis, which developed after peeling and grating raw carrots in the kitchen at home (Fig. 1). Furthermore, he reported skin sensitivity to plants generally and described another episode of dermatitis after cutting down ivy in the garden.

He was patch tested to the European standard series, the Crawford plant series, a piece of rubber glove, phos-

phorus sesquisulfide, slices of raw carrot and celery, and a piece of common ivy leaf. Positive reactions were seen to carrot (+++), celery (++) and ivy (++).

Discussion

Allergic contact dermatitis from carrot is well described, though exposure is usually occupational (1–3) rather than domestic (4–5). Hand or fingertip dermatitis is the typical clinical pattern, but 2 of Vickers' (1) 7 cases in a canning factory had involvement of the face. Falcarinol in an allergen common to carrot (*Daucus carota*), celery (*Apium graveolens*) and common ivy (*Hedera helix*) (6, 7). It is therefore likely that our patient has contact allergy to falcarinol.

Our patient has been advised to avoid handling any of the Umbelliferae family, which includes parsnip and parsley (8) as well as carrot and celery. Most patients with positive patch tests to carrot are able to eat it without untoward reaction (2). Our patient eats cooked carrot with no problem but avoids large quantities of raw carrot because of having noticed some soreness of the mouth and lips.

Falcarinol is commonly found in the family Araliaceae of which ivy is a member. A number of house plants, including the umbrella tree (*Schefflera actinophylla*), are members of this family and should also be avoided by our patient.

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Fig. 1. Facial dermatitis several days after exposure to carrot.

The azo dye Solvent Yellow 3 produces depigmentation

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Key words: chemical leukoderma; contact depigmentation; azo dyes, Solvent Yellow 3; Crocein Scarlet MOO. © Munksgaard, 2000.

We have recently reported depigmentation by para-phenylenediamine (PPD) (1), a hair dye component, and by Crocein Scarlet MOO (CSM) (2), an azo dye in alta, a red skin decoration. Solvent Yellow 3, also known as Fast Garnet GBC, is an azo dye used for textile dyeing.

Case Report

A 34-year-old woman presented with depigmentation for the past 4 months on the sides and dorsa of both feet, corresponding to the areas where alta is applied. At the onset, she had applied alta around 6 p.m. and past midnight started itching, dermatitis appearing within 24 h and depigmentation developing a month later. She had never dyed her hair.

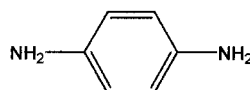
She was patch tested with the CODFI (Contact and Occupational Dermatoses Forum of India) standard series, monobenzyl ether of hydroquinone, p-tertiary-butyl phenol and the azo dyes Crocein Scarlet MOO, Solvent Yellow 3, Metanil Yellow, Acid Orange, Acid Fast Red B and Ponceau 4R (each 1% in Plastibase), using aluminium chambers on Micropore. The patches were removed on D2 and readings made on D2 and D3 as per ICDRG criteria, the positives being as follows: PPD+, Crocein Scarlet MOO ++, Solvent Yellow 3 +. After a month, there was still erythema and peripheral hypopigmentation at the positive patch test sites, followed by frank depigmentation 3 months later (Fig. 1).

Discussion

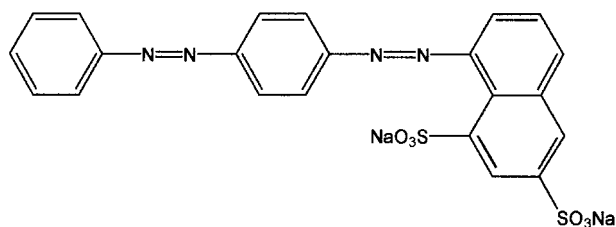
Solvent Yellow 3 (4'-amino-2',3'-dimethylazobene or o-aminoazotoluene), golden yellow crystals, m.p. 101–

102°C, C₁₄H₁₅N₃, MW 225.30, C.I. 11160, $\lambda_{\max}$ 326–491 nm (ϵ : 19,000; 2,500) in 50% alcoholic 1N HCl, is 1 of a series of such dyes, the others being Solvent Yellow 2, 14, 16, 33 and 72. It is toxic and a suspect carcinogen (3), used for textile dyeing, mainly of synthetic fibres, and prepared from o-toluidine, sodium nitrite and hydrochloric acid. (Schulman, U.S. patent 2,538,431, 1951 to Pfister Chem. Works.) It has a simpler structure than other azo dyes, the –N=N– (azo) and 4'-NH₂ group being the only probable enzyme-anchoring sites. However, the amino-containing benzene ring has the required p, p'-substitution, a structural similarity with PPD and Crocein Scarlet MOO and the minimum requirement for group sensitization.

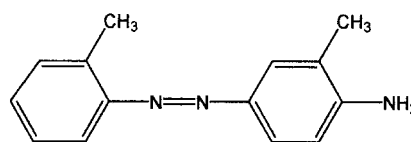
During our investigation of alta, we discovered that, besides Crocein Scarlet MOO (CSM) and rhodamine, it contained a yellow pigment, the mobility (R_f value) of which, on TLC and HPLC, was similar to that of Solvent Yellow 3. However, later investigations showed it to be a degradation product. Because in some patients Solvent Yellow 3 had shown cross-reactivity with Crocein Scarlet MOO, it was routinely tested in all patients



(I) p-Phenylenediamine



(II) Crocein Scarlet MOO.3B/ Brilliant Crocein MOO/ Acid Red 73



(III) Solvent Yellow 3/ Fast Garnet GBC Base



Fig. 1. Depigmentation at patch test sites.

Fig. 2. Chemical structures PPD and azo dyes.

with alta dermatitis and depigmentation. However, in the same investigation, other azo dyes, Metanil Yellow, Acid Orange, Acid Fast Red B and Ponceau 4R, were also applied, but were negative.

Para-phenylenediamine (PPD), a component of hair dyes, was 1st implicated by Taylor et al. (4) as a cause of depigmentation. In our study of depigmentation by Crocein Scarlet MOO (2), depigmentation was also seen at the PPD patch test site. Solvent Yellow 3 has also shown patch test reactions in cases of alta dermatitis, though it is not a component of alta.

Disperse dyes of azo type are said to cross-react with para-amino compounds and cause group sensitization (5). Such cross-sensitizations can possibly be explained by structural similarities, as evident from the structures of PPD (I), Crocein Scarlet MOO (II) and Solvent Yellow 3 (III) (Fig. 2). Since p-substituted phenols like p-tertiary butyl phenol (PTBP) produce depigmentation (6), p-substitution of the benzene ring may be the minimum requirement for depigmentation by azo dyes. Whether this is due to the isosteric effect of these mol-

ecules or the reactivity of their degradation products, i.e., ions or free radicals, requires further study.

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Occupational allergic contact dermatitis from Compositae in agricultural work

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Key words: occupational; allergic; contact dermatitis; Compositae; Asteraceae; agriculture; farming; sesquiterpene lactone; airborne; arnica; grains; cereals. © Munksgaard, 1999.



Fig. 1. Hyperkeratotic dermatitis on the back of the hand after 2 weeks of working.

Case Report

A 36-year-old non-atopic man had worked full-time as an agricultural substitute worker for 12 years, when he developed severe vesicular dermatitis on the backs of the hands, and a milder dermatitis on the lower arms, upper chest and face. He had worked on various cattle farms, his duties varying from feeding the animals, milking the cows, and cleaning the animals and cow houses. He ground grain daily to make feed for the cattle, using various cereals containing plants, e.g., Compositae (Asteraceae), as impurities. He was also exposed to many chemicals used in agricultural work (1). He was symptom-free when away from work, but the dermatitis quickly relapsed on his return. When first seen by us, he had been on sick leave and had no dermatitis.

2 patch test sessions were performed according to the recommendations of ICDRG. In a modified European standard series, Compositae mix (6%, Trolab) gave a ++ reaction. Series of antimicrobials and cocoyl fatty acids were negative. In a series of plant allergens (2, 3), Compositae mix (6%) of Hausen (4) gave a ?+ reaction, arnica (Compositae) a ++ reaction, black-eyed susan (Compositae) a + reaction, and dahlia, gaillardia and sticky elecampane (all Compositae) ?+ reactions. A series of plant allergens (2, 3), including sesquiterpene

lactone (SL) mix (0.1% pet.; Chemotechnique AB, Malmö, Sweden) was negative. Patch testing with cow epithelium was negative. Prick tests with a series of environmental allergens, including natural rubber latex, cow and pig epithelium, as well as with a series of storage mites and flours were negative.

The patient was advised to resume work, but, within 2–3 days of returning, his hand dermatitis relapsed. He continued to work for 2 weeks and was then put on sick leave. When seen by us 3 days later, he had severe dermatitis on the backs of the hands (Fig. 1). His sick leave was extended and at a follow-up visit 10 days later, his hand dermatitis had improved considerably, and in 5 weeks healed totally. We concluded that our patient had occupational allergic contact dermatitis from Compositae. He was recommended to change to a job in which no Compositae exposure would occur.

Discussion

In Finland, agricultural workers are frequently exposed to the allergens in Compositae plants, because these are probably the most common weeds. Our patient was daily exposed to the dry hay fed to the animals. Hay is contaminated with pieces of dry Compositae. He was also exposed to Compositae from grinding grain. Grain for animal consumption is not cleaned as well as grain for human consumption and therefore routinely contains parts of Compositae. Furthermore, various other cereals were used for the animals, and these may also have contained parts of Compositae as impurities. Threshing was a further task in which the patient was exposed to Compositae. Dried Compositae plants may have an allergic content equal to fresh plants (5). Contact can occur directly by skin contact with dried SL-containing trichomes in dust or indirectly through contact with clothing and articles contaminated by dust (6, 7).

Ducombs et al. (8) developed an SL mix, a mixture of 3 allergenic lactones present in Compositae, namely alantolactone, dehydrocostuslactone and costunolide, each at 0.33% in pet. Multicentre studies have shown that 1–1.5% of those tested were positive to this SL mix, and many diagnoses would have been missed had this screening test not been included (5, 6). Recently, the diagnosis of Compositae allergy has been augmented by the Compositae mix of Hausen (4), comprising ether extracts of 5 Compositae plants. This mix contains both sesquiterpene lactones and allergenic polyacetylenes and thiophenes (4, 10). Hidden sources of hand and face dermatitis from Compositae, including airborne contact dermatitis, might be diagnosed more frequently when both SL mix and Compositae mix are used for patch testing. The SL mix and the Compositae mix detect an equal number of responders, but not the same patients (4, 11–13). In 1 recent study, the SL mix detected only 6 of 17 Compositae-allergic patients (11), indicating that the Compositae mix might be a better screening material, as in our patient. The allergens in Compositae plants may vary from one region to another. Therefore, it may be helpful to use both mixes. Unfortunately, there is concern that the Compositae mix may cause active sensitization (14), although Hausen (4) reported no

cases of sensitization in 3851 patients. The content of different Compositae mixes varies (4) and this probably explained the variable findings on patch testing with Compositae mix in our patient. It may also explain differences in active sensitization (4, 14).

With the help of the SL mix or the Compositae mix, we have recently diagnosed several cases, including the present one, of unexpected occupational hand and face dermatitis. This has also been reported from elsewhere (16, 17). Compositae dermatitis may be more common than previously thought, especially in agricultural work.

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Allergic contact dermatitis from natural rubber latex

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Key words: natural rubber latex; delayed-type allergy; hand eczema; patch test; home nursing; carers.

Reports of natural rubber latex (NRL) allergy have steadily increased over the last 10 years (1). The highest-risk individuals are patients with spina bifida, healthcare workers and rubber industry workers (1, 2). Latex allergy generally refers to a Type I reaction to NRL proteins, with clinical manifestations ranging from contact urticaria to asthma and anaphylaxis (3–6). In contrast, Type IV hypersensitivity to NRL is rare.

Case Report

A 45-year-old Caucasian housewife reported hand eczema for 1.5 years. At the onset, she had begun nursing her mother. Everyday, she had to clear and change her mother's NRL-containing urinary catheter and urinary device. She did not wear gloves when nursing. The patient had no previous history of hay fever, atopic eczema, contact urticaria, generalized urticaria or asthma. She was right-handed.

On presentation, the patient showed itchy slight erythema with scaling and vesicles on the right ring and little fingers and the palms, with accentuation of the right hand. There was red dermographism.

Patch testing with standard screening, rubber chemicals, excipients in creams (test series Deutsche Kontaktallergiegruppe) and pure NRL provided by Regent (liquid high ammonia 0.7% NRL, accelerator and preservative-free latex) showed a positive reaction only to NRL after 3 days. Control patch tests with pure NRL in more than 100 patients with hand eczema were negative.

Prick testing with NRL solution provided by Hartmann and Regent, pure, aqueous dilution 1:10 and 1:100, was negative at 20 min. Late reading after 1 day revealed infiltrated erythema at all latex prick test sites. Total IgE was 18.6 kU/l (normal) and NRL-specific IgE was 0 determined by CAP RAST FEIA (Pharmacia, Freiburg, FGR). Mycological culture of scales from the palms was negative.

With topical corticosteroids and avoidance of the allergen, the hand eczema healed.

Discussion

NRL allergy can be IgE-mediated Type I hypersensitivity or a delayed Type IV reaction (3–6). Until 1979, rubber allergy was usually caused by a Type IV delayed reaction to chemicals used in the manufacture of gloves (1, 7, 8). Few cases of allergic contact dermatitis from NRL have been reported (9–10), but Heese (11) notes the importance of patch testing with accelerators and preservative-free latex. We recommend patch testing patients with hand eczema with rubber chemicals and NRL.

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Alternative formulation for patients with contact reactions to topical 2% and 5% minoxidil vehicle ingredients

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Key words: allergic contact dermatitis; propylene glycol; hexylene glycol; minoxidil; PEG 400; polyethylene glycol; vehicle-dependent contact allergy; compound allergy; allergen replacement; medicaments. © Munksgaard, 2000.

Both irritant and allergic contact reactions to topical minoxidil or vehicle ingredients have been reported (1–8). Some are due to the relatively high concentrations of propylene glycol used as a solvent in commercially-available minoxidil formulations. Propylene glycol dermatitis is a well-recognized phenomenon, which can occur from exposure to many topical medications (9). There have also been allergic reactions to minoxidil, and these reactions sometimes occur only in specific vehicles (10). This phenomenon has been called vehicle-dependent contact allergy and is presumably due to variation in the skin delivery of allergens in different vehicles. For these patients, an alternative formulation would be of great utility.

Case Report

A 47-year-old woman with androgenetic alopecia presented with generalized scalp erythema. At D3, patch tests to the NACDG standard tray and a tray of 30 common cosmetic ingredients were negative, except for a +++ reaction to propylene glycol 5% pet. In addition to the 2 test trays, there were also +++ reactions to propylene glycol 50% aq., with or without 2% or 5% minoxidil. At D3, further testing showed +++ reactions to 2% and 5% minoxidil in hexylene glycol 50% aq. There was no reaction to hexylene glycol 5% aq. or hexylene glycol 50% aq. There were also no reactions to an aqueous mixture of 40% polyethylene glycol (PEG) 400, 20% ethyl alcohol and 6% citric acid, with or without 5% minoxidil.

Discussion

The patch tests indicated that this patient had contact allergy to propylene glycol. The lack of reaction to 5% and 50% hexylene glycol suggested that the reactions to 5% minoxidil in hexylene glycol might be either vehicle-dependent contact allergy or compound allergy. Vehicle-

dependent contact allergy involving minoxidil has previously been described (9). A lack of reaction to 5% minoxidil in the PEG 400 mixture argues against a true contact allergy to minoxidil. The PEG 400 mixture may be a useful alternative vehicle for patients with intolerance to propylene glycol, or with vehicle-dependent contact allergy to minoxidil in either propylene or hexylene glycol.

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Ring dermatitis as a clinical presentation of fragrance sensitization

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Key words: ring dermatitis; fragrance; isoeugenol; geraniol; vesicular hand eczema. © Munksgaard, 2000.

Ring dermatitis is mainly irritant, from accumulation of soap and detergents under the ring (1, 2). Less frequently, allergic contact dermatitis under rings has been observed, from nickel, gold and palladium (3). Radio-dermatitis of the fingers from radioactive gold rings has also been reported (4).

Case Report

A 16-year-old student, with no personal or family history of atopy or allergies, presented with a 2-day history of pruriginous vesicles on the dorsal and palmar aspects of the index, middle and ring fingers of both hands. The lesions were clustered into well-demarcated areas under her rings (rubber and metal-plated) (Fig. 1). She had had to take off the rings due to the severity of the symptoms. Treatment with systemic and topical corticosteroids resulted in resolution of the lesions within a week. For the past few months, she had daily been using several cosmetics, including eau de toilette and body milk, with good tolerance.



Fig. 1. Vesicular lesions under the rings on the fingers of the left hand.

Patch tests were carried out with the GEIDC standard series, eau de toilette, body milk and its components, and rubber, cosmetics and fragrance series. Positive reactions (++) were obtained at D2 and D4 to mercury 0.5% pet., isoeugenol 2% pet., geraniol 2% pet., eau de toilette as is, body milk as is and its perfume as is, and at D4 to thimerosal 0.1% pet. Eau de toilette and body milk use tests were subsequently positive, eczema developing on the neck and arms 1 day after application.

Discussion

The hands are commonly affected in fragrance-sensitive patients (5, 6), at least 41% of whom develop hand eczema (7). Some think that fragrances are rarely the sole cause of hand dermatitis and propose them as aggravating factors (6). Ring dermatitis as a presentation of fragrance sensitization is unusual. Repeated fragrance contact on irritated skin in a semi-occluded area under the rings may have facilitated sensitization.

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Double active sensitization in an atopic patient

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Key words: active sensitization; atopic; allergic contact dermatitis; occupational; rhinoconjunctivitis; mansonone A; phenol-formaldehyde resin; spathe flower; weeping fig; *Ficus benjamina*; decorative flowers; gardener. © Munksgaard, 1999.

Case Report

A 22-year-old gardener developed contact urticaria and rhinoconjunctivitis from decorative flowers, as well as a work-related hand dermatitis. Prick tests with standard environmental allergens, decorative flowers (1) and vegetables gave the following positive reactions: histamine hydrochloride 10 mg/ml (5 mm=3+); birch (6 mm+pseudopodia; ps); alder (3 mm); willow (*Salix*) (4 mm); meadow fescue (*Festuca pratensis*) (7 mm+ps); timothy (4 mm); and histamine-sized reactions to potato, carrot and onion. Spathe flower (*Spathiphyllum wallisii*; 1) and weeping fig (*Ficus benjamina*; 2) gave strongly positive prick test reactions with a diameter 2× that of histamine (4+), indicating occupational immediate-type allergy. Elevated levels (class 2) of specific IgE antibodies of birch, spathe flower and weeping fig were present, as determined by RASTs. Total IgE was slightly elevated at 169 kU/l (normal<110). The above test findings confirmed the patient's atopic background.

2 patch test sessions were then performed, according to the recommendations of ICDRG. In the 1st, methylchloroisothiazolinone/methylisothiazolinone (Kathon CG, 100 ppm; Chemotechnique Diagnostics AB, Mölndal, Sweden) elicited a ++ reaction in a modified European standard series, while all other tests were negative. A series of plant allergens and chemicals, mainly allergens from Hausen (3–5) and 2-monomethylphenol (6), as well as a series of pesticides (Trolab), were then negative. However, 2 weeks later, a reaction developed where the plant allergens had been tested, suggesting active sensitization (4).

The patient was retested 9 months later with the same plant allergen series. A reaction was provoked by 2-monomethylphenol (D2, ?+; D3, ++; D4, ++). 9 days later, another test site became positive, suggesting that the patient had been actively sensitized to another chemical during the repeat patch test session (double active sensitization). As the reaction from 2-monomethylphenol was still visible, the test site could be identified as having been caused by mansonone A (++, 1% pet.). A work trial showed that the patient could not continue in his job and he is currently in re-education.

Discussion

Mansonone A is a red *ortho*-quinone and a strong sensitizer (7, 8). It is the allergen in the *Mansonia* tree from Nigeria, which has been used as a substitute for walnut (8). It has caused outbreaks of occupational contact dermatitis (8), and we have seen 1 earlier case of active sens-

itization (9). 2-methylol phenol, also known as salicyl alcohol and 2-hydroxybenzyl alcohol, is one of the many allergens in phenol-formaldehyde resin (10). It has also been identified as an allergen in aspen bark (6). We have not seen other cases of active sensitization.

Active sensitization is iatrogenic sensitization to a chemical induced by application of a patch test (4, 11–13). It is detected by the patch test site becoming positive around 10–21 days after application (11–13). The allergy can be verified by retesting: the patch test site becomes positive in 2–4 days with the repeat patch test procedure. We have defined double-active sensitization as sensitization to different allergens on 2 consecutive patch test sessions (14). Few such cases have been reported (14, 15).

The present patient was confirmed as atopic by prick tests and RASTs. Atopic persons may become sensitized to contact allergens (16, 17), though numerous studies indicate that they have decreased rates of sensitization even to strong allergens such as dinitrochlorobenzene (18) and para-phenylenediamine (19). Patch test sensitization probably represents an increased tendency to become sensitized, as most people do not become sensitized from conventional patch testing. Double patch test sensitization would seem to indicate an even higher individual tendency to sensitization. That this risk can also apply to atopics is well shown in our patient.

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Allergic contact dermatitis from alkylammonium amidobenzoate (Osmaron B®)

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Key words: allergic contact dermatitis; alkylammonium amidobenzoate; CAS 68526–65–8; udder cream; occupational; Osmaron B®; agriculture; farmer; preservatives. © Munksgaard, 2000.

Quaternary ammonium compounds (quats) are used as preservatives and disinfectants in detergents, skin-care products and topical medicaments. Alkylammonium amidobenzoate (CAS 68526–65–8, Osmaron B®) is a quat with a long hydrophobic alkyl side-chain, which is used as a disinfectant, especially in udder creams. Allergic contact dermatitis from alkylammonium amidobenzoate has become rare as machine milking has superseded hand milking (2). However, udder creams containing alkylammonium amidobenzoate have produced allergic contact dermatitis when used for skin care (1, 2).

Case Report

A 61-year-old farmer developed an erythematous itchy eczema on the volar and distal aspects of her right arm in the late summer. The eczema spread to the dorsum and the fingers and finally to the palm, and later less severely to the left hand. Before the onset, the patient had been using 2 brands of topical application on the udders of her cows after milking, a "milking cream" (cream A) and an "udder cream" (cream B). Patch tests with the Finnish standard series (Chemotechnique Diagnostics) showed positive reactions to methyldibromo glutaronitrile/phenoxyethanol and the caine mix (cinchocaine, benzocaine and tetracaine). In addition, creams A and B produced positive reactions.

The reaction to cream A was caused by methyldibromo glutaronitrile/phenoxyethanol, which was present as

a preservative. The cause of the reaction to cream B was studied by testing its ingredients, including petrolatum, beeswax and alkylammonium amidobenzoate. Of them, alkylammonium amidobenzoate, tested as a serial dilution from 5% to 0.01% pet., showed positive reactions down to 0.01%. Tests with the constituents of the caine mix remained negative. 7 of 8 controls showed irritant reactions to 5% and 2 to 1% alkylammonium amidobenzoate, while 0.1% and 0.01% dilutions remained negative in all. The patient's eczema healed when she stopped using creams A and B and avoided all products containing methyldibromo glutaronitrile/phenoxyethanol.

Comment

The hand dermatitis of our patient was clearly caused by contact allergies to the preservatives of her udder creams: methyldibromo glutaronitrile/phenoxyethanol and alkylammonium amidobenzoate. The positive reaction to the caine mix (with negative reactions to its ingredients) was regarded as irrelevant. According to the manufacturer, cream B, which contains alkylammonium amidobenzoate, is sold widely in Finland, especially in summer, to prevent udder infections. The patient's allergy to alkylammonium amidobenzoate would not have been found if cream B had not been tested separately, because alkylammonium amidobenzoate is not included in any standard patch test series. A 0.1% patch test concentration pet. seems to be sufficient, as has been recommended earlier (2). Alkylammonium amidobenzoate

is not included in the INCI (International Nomenclature of Cosmetic Ingredients) list, and is consequently not used in cosmetics.

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Allergic contact dermatitis from carteolol and timolol in eyedrops

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Key words: carteolol; timolol; eyedrops; allergic contact dermatitis; cross-sensitivity; medicaments; ophthalmics; β -blockers. © Munksgaard, 2000.

Case Report

A 60-year-old man had had chronic open-angle glaucoma for 7 years and had been using the ophthalmic β -blocker timolol (Timoftol®, Merck Sharp & Dohme) with good tolerance for 2 of these years. He then developed a severe symmetrical eyelid dermatitis lasting 3 months. During the next 1 year, he had been prescribed various other brands of eyedrops because of intolerance. These had included both the β -blocker carteolol (Mikelan®, Miquel SA) and α -mimetics. During this last period, he had had relapsing eyelid itching, swelling and eczema, hyperemia and conjunctival chemosis.

He was patch tested with the European standard series, his own eyedrops and all their individual components. Readings at 2 and 3 days (D) showed positive reactions to carteolol and timolol and to the eyedrops themselves. Further patch testing with other β -blockers showed a positive reaction to levobunolol (Betagan®, Allergan SA). Patch tests with these β -blockers in 5 controls were negative.

Discussion

Allergic contact conjunctivitis and dermatitis from topical non-selective β -blockers used for treating open-angle glaucoma has previously been described (1–3). However, carteolol has rarely been involved in such reactions (3).

We report a carteolol-allergic patient with extensive cross-reactivity to other topical β -blockers. β -blockers involved in previous reactions, carteolol and timolol, elicited positive patch test results; and levobunolol, a β -blocker never previously used by the patient, was also positive. There are several reports of cross-reactivity among β -blockers (3, 4), possibly due to a common lateral aliphatic chain (3). However, lack of cross-reactivity to other topical and systemic β -blockers has also been reported (2, 5).

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Allergic contact dermatitis from glyceryl trinitrate ointment

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Key words: pruritus ani; allergic contact dermatitis; glyceryl trinitrate; lanolin; medicaments. © Munksgaard, 2000.

Case Report

A 57-year-old left-handed man presented with a 1-year history of worsening pruritus ani and a 3-month history of a rash on the left hand. Pruritus ani and haemorrhoids went back 10 years. 3 months ago, he had been started by a general surgeon on a diluted mixture of lanolin-containing Percutol® ointment (0.2% glyceryl trinitrate [GTN] in soft white paraffin), applied perianally 3× daily. He had developed the rash on the left hand within a few weeks of starting such treatment. He had no previous history of skin disease or atopy, though his son had a history of asthma. He had no history of ischaemic heart disease, and was taking no oral medications nor currently using any other topical medicaments.

On examination, there was scaly eczema of the tips of the fingers of the left hand, marked perianal fissured eczema, extending onto the scrotum, and external haemorrhoids.

Patch tests to the European standard series, a medicaments series and the diluted GTN ointment, as is, were read at D3, showing reactions to benzocaine (+), parphenylenediamine (+), wool wax alcohols (+), balsam of Peru (+), cinchocaine (+++), and diluted GTN ointment (++). Further patch testing to the constituents of Percutol®, including GTN, lactose, soft white paraffin and lanolin, gave reactions at D3 to GTN 2% pet. (++++) and lanolin (+).

The GTN ointment was discontinued and he was treated with a potent topical corticosteroid ointment and emollients. The rash on his hand cleared and his perianal eczema improved.

Discussion

Glyceryl trinitrate (GTN) is a vasodilator well-established in the treatment of angina pectoris (1). In recent years, GTN has also been used topically in the treatment of anal fissure (2, 3).

Allergic contact dermatitis from GTN, in the form of ointment (4–6) or patch (7–12), has been reported in patients with angina pectoris, though most skin reactions to transdermal GTN systems are thought to be irritant (13, 14). Contact sensitivity is common in perianal dermatoses and pruritus ani (15), from topical antibiotics, anaesthetics and corticosteroids, as well as lanolin (15, 16). The overall significance of lanolin allergy has been challenged by Kligman (17), though lanolin is widely considered to cause allergic contact dermatitis when applied to stasis eczema and ulcers (18, 19).

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Allergic contact dermatitis from camomile used in phytotherapy

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Key words: allergic contact dermatitis; camomile; Roman camomile; *Anthemis nobilis*; phytotherapy; systemic contact dermatitis; plant extracts; herbal remedies; medicaments. © Munksgaard, 2000.

Case Report

A 34-year-old woman was hospitalized with acute generalized eczema, accentuated on the face. She had a history of atopic dermatitis, starting at age 14 years. In recent years, her atopic dermatitis had been stable, showing only isolated lesions in the elbow flexures.

Patch tests showed numerous positive reactions (Table 1), especially to a homoeopathic preparation. A 2nd series of patch tests with the ingredients of this latter, provided by the pharmacist who had prepared the product, demonstrated a positive reaction to essential oil of camomile (25% o.o. and 4% pet., according to (1)).

Table 1. Results of patch tests

	D2	D3
European standard series		
nickel	++	++
colophonium	+	+
fragrance mix	?+	+
Additional series		
antiseptics	—	—
excipients	—	—
corticosteroids	—	—
cosmetic products	—	—
homoeopathic preparation	++	+++
Ingredients of homoeopathic preparation		
camomile 25% o.o.	++	+++
(essential oil) 4% pet.	++	+++
alaria (tincture)	—	—
calendula	—	—
cerat	—	—

Discussion

The patient reported having applied compresses of camomile tea to her face and neck before the onset. After its onset, 2 homoeopathic preparations, 1 containing the essential oil of camomile, were prescribed. On applying these homoeopathic preparations, her facial eczema worsened and later became generalized. The patient also reported having regularly drunk camomile tea.

The camomile in the tea, the compresses, and the homoeopathic preparations was identified each time as *Anthemis nobilis* (Roman camomile or noble camomile), which belongs to the family of Asteraceae (or Compositae). The responsible allergens are probably therefore sesquiterpene lactones. The lactone nobilin has been extracted from Roman camomile and is a potent sensitizer (2). However, in this patient, patch testing with the sesquiterpene lactone mix was negative (3). In camomile-sensitive patients, camomile tea can also elicit anaphylactic reactions or systemic contact dermatitis (2,4). Roman camomile is not only used in phytotherapy but also in cosmetics, its presence then being indicated on the packaging by the INCI term *Anthemis nobilis*.

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Vesicular palmar eczema from the neoprene tongue of an ankle support

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Key words: allergic contact dermatitis; DETU; diethylthiourea; vesicular hand eczema; rubber chemicals; thiourea compounds; sportswoman; neoprene ankle support. © Munksgaard, 2000.

Thiourea compounds are used as rubber chemicals, especially in synthetic rubbers. Although usually occupational (1, 2), allergy to thioureas has also been reported from leisure exposure, such as wearing a diver's wet suit or a knee support (3, 4).

Case Report

The patient was a 31-year-old healthy sportswoman. 3 years previously, she had had eczema and itching under a knee support, but had not sought medical help. 1 year later, she developed dermatitis around her waist, but did not connect this with the rubber warming belt she had been wearing. A doctor friend suspected herpes zoster. In winter 1997, the patient used a support on her right ankle during sports training. After 2 h, she experienced severe itching under the ankle support and removed it. During the following night, severe itching spread over her whole body, and after 2 days, a vesicular eruption developed on her palms. She now suspected the ankle support to be the culprit, even though there was no dermatitis on her ankle, and contacted our clinic.

2 months later, she was patch tested with a rubber patch test series (Chemotechnique Diagnostics). The tests had to be removed from her back after 1 day (on D1), because she reported severe itching in the test area. At that time, a few vesicles were also noted on her palms. On the 2nd day, the patient developed generalized urticaria, which was most severe on her palms. She was treated with oral antihistamine and the urticaria disappeared after 1 day. Patch tests showed positive reactions to diethylthiourea (DETU; ++) and diphenylguanidine (DPG; +) on D1, D2 and D4. Prick tests with our standard prick test series (including animal danders, pollens, house dust mites, the 4 most common moulds and natural rubber latex) and with DETU (the 1% patch test substance) were performed with negative results. The patient refused further tests. The manufacturer informed us that the tongue of the patient's ankle support was made of neoprene and contained DETU. The patient was in-

formed about other possible contacts with DETU. To date, she has since been symptom-free.

Comment

A vesicular reaction of the palms ('pompholyx') usually remains without known etiology. It may be a response to allergic contact dermatitis of the feet from rubber shoes or other chemicals (5). In our patient, the vesicular palmar eczema was clearly caused by DETU in her ankle support, even without visible dermatitis in the contact area. The generalized urticaria during patch testing was probably a similar response to contact with DETU. In accordance with previous reports (1–4), our patient was allergic to only 1 thiourea compound, patch tests with diphenylthiourea and dibutylthiourea remaining negative. The weak patch test reaction to DPG was interpreted as non-specific due to an "angry back".

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