

4. Rademaker M, Forsyth A. Contact dermatitis in children. *Contact Dermatitis* 1989;20: 104-107.
5. Gonçalves S, Gonçalves M, Azenha A, Barros M A, Sousa Bastos A, Brandão F M, Faria A, Marques M S J, Peçegueiro M, Rodrigues J B, Salgueiro E, Torres V. Allergic contact dermatitis in children. *Contact Dermatitis* 1992; 26: 112-125.
6. Rudzki E, Grzywa Z. The effect of a mixture of cassia and citronella oils for detection of hypersensitivity to essential oils. *Dermatosen* 1985; 33: 590.
7. Ayala F, Balato N, Lembo G, Patruno C, Tosti A, Schena D, Pigatto P, Angelini G, Lisi P, Rafanelli A. A multicentre study of contact sensitization in children. *Contact Dermatitis* 1992; 26: 307-310.

Offset printer's occupational allergic contact dermatitis caused by cobalt-2-ethylhexoate

LASSE KANERVA, RIITTA JOLANKI AND TUULA ESTLANDER

Section of Dermatology, Finnish Institute of Occupational Health, Topeliuksenkatu 41 aA, FIN-00250 Helsinki, Finland

Key words: cobalt-2-ethylhexoate; cobalt octoate; CAS 136-52-7; offset printer; occupational; ink; drier. © Munksgaard, 1996.

Cobalt salts are well-known sensitizers (1); used as driers in paints or inks, they have, on rare occasions, been reported as occupational allergens (2, 3).

Case Report

A non-atopic male, born in 1943, had worked as an offset printer since 1960, and had for a long time had hand eczema. He was first investigated by us in 1983; bacitracin elicited an allergic patch test reaction, otherwise the standard series, rubber chemical series and plastics and glues series were negative. In 1995, his hand dermatitis deteriorated, and he was referred back to us for further investigation. Cobalt chloride gave an allergic patch test reaction in the standard series, and in a dilution series, 3.2% chloride gave a ++ reaction, 1-0.32% a + reaction, and 0.1% was negative. 2 of the ink driers from work provoked allergic patch test reactions when tested in dilution series (1 to 10% pet.). The material safety data sheets of the driers declared them to contain 5% and 2% cobalt-2-ethylhexoate (4), respectively. The manufacturer confirmed that the driers contained 5% cobalt-2-ethylhexoate in mineral oil, and 2% cobalt-2-ethylhexoate plus 4% manganese octoate in mineral oil, respectively. Nickel sulfate was negative on patch testing.

Discussion

Isolated cobalt allergy is relatively rare (5). Our patient had been in contact with cobalt-2-ethylhexoate (syn. cobalt octoate, $C_4H_9CH(C_2H_5)COOH$, CAS 136-52-7), the cobaltous salt of 2-ethylhexoic acid, used as a paint and ink drier, whitener and catalyst (4). Cobalt has long been recognized as a contact sensitizer in painters. Pirilä (2) reported dermatitis from a cobalt drier in a paint factory worker. Burrows & Adams (1) mention the fol-

lowing cobalt salts as driers of paints and varnishes: the ethylhexoate, abietate, acetate, hydroxide, linoleate, naphthenate, oleate, tallate and tungstate.

Paint films are formed by the drying of various unsaturated oils, such as linseed, soyabean, fatty acid, tall, tung, safflower, fish and marine, coconut and oiticica oils (6). Drying represents oxidation and polymerization, and is hastened by pretreatment of the oil and by adding driers, or catalysts, predominantly heavy-metallic soaps, which are oxygen carriers, usually soluble in oil (6). Driers include cobalt, manganese, lead, zinc, calcium, barium, zirconium and tin naphthenates, resins, linoleates, 2-ethylhexoates and tallates (6, 7), paints often containing more than one. Driers, especially cobalt naphthenate and oleate, may sensitize (1, 3, 7). Recently, we reported a laminator in boat building, who contracted cobalt allergy from 10% cobalt naphthenate (8). Cobalt-2-ethylhexoate seems not previously to have been reported as a sensitizer. Dermatitis patients in contact with inks, paints or varnishes need to be patch tested with cobalt, which is no problem because cobalt chloride is included in the standard series, though its potential relevance in such patients may well be missed.

References

1. Burrows D, Adams R M. Metals. In: Adams R M (ed): *Occupational skin disease*, 2nd edition. Philadelphia: W. B. Saunders Co, Harcourt Brace Jovanovich, Inc. 1990: 349-386.
2. Pirilä V. On occupational disease of the skin among paint factory workers. Painters, polishers, and varnishers in Finland. *Acta Dermato-venereologica* 1947; supp 16: 1-163.
3. Wehle U. Arbeitsbedingte Ekzeme durch Polyester. *Allergie und Asthma* 1966; 12: 184-186.
4. Lewis R J. *Hawley's condensed chemical dictionary*, 12th edition. New York: Van Nostrand Reinhold Co., 1993: 293.

5. Rystedt I. Evaluation and relevance of isolated test reactions to cobalt. *Contact Dermatitis* 1979; 5: 233-238.
6. Shreve R N, Brink J A. Surface coating industries. In: *Chemical process industries*, 4th edition. New York: McGraw-Hill, 1977: 380-399.
7. Fischer T, Adams R M. Paints, varnishes, and lacquers. In: Adams, R M (ed): *Occupational skin disease*, 2nd edition. Philadelphia: W. B. Saunders Co, Harcourt Brace Jovanovich, Ind., 1990: 426-438.
8. Tarvainen K, Jolanki R, Forsman-Grönholm L, Estlander T, Pfäffli P, Juntunen J, Kanerva L. Exposure, skin protection and occupational skin diseases in the glass-fibre reinforced plastic industry. *Contact Dermatitis* 1993; 29: 119-127.

Acne and allergic contact dermatitis

N. BALATO, G. LEMBO, F.M. CUCCURULLO, C. PATRUNO, P. NAPPA AND F. AYALA

Clinica Dermatologica, Università di Napoli Federico II, Via S. Pansini 5, 80131 Napoli, Italy

Key words: acne vulgaris; allergic contact dermatitis; tretinoin; spironolactone; benzoyl peroxide; medicaments.
© Munksgaard, 1996.

Acne vulgaris (AV) is very common, topical medications, such as tretinoin (T), benzoyl peroxide (BP) and certain antibiotics (clindamycin, erythromycin) being widely prescribed for it (1-3). T and BP frequently induce irritant skin reactions, while allergic contact dermatitis (ACD) has more rarely been reported (4-6).

Patients and Methods

204 patients (43 male and 161 female; average age 19.4 years), under treatment for at least 2 months, entered our study. A special series of allergens was used for patch testing (Table 1), applied with van der Bend square chambers and read at 2 and 3 days. In the case of a positive reaction, patch tests and repeated open application tests (ROAT) were done with each component of the topical product.

Results

Results are shown in Table 1. Numerous irritant reactions to T 0.05% eth. and BP 5% gel were found. 7/204

(3.4%) patients had a positive allergic reaction: 4 to spironolactone (S), 1 to T, and 2 to BP. In all cases, this positive reaction was clinically relevant. The 7 patients were positive to both patch test and ROAT with the commercial product responsible, as is. When patch tests with components of the medicaments were performed, patients reacted to the antiacne drug only, positivity being confirmed by dilution series.

Discussion

In our study, 3.4% of the patients treated for AV experienced ACD from their topical medicaments, suggesting that it is not that uncommon. S is an antiandrogen recently introduced for acne therapy, 4 cases of ACD from which have been reported in recent months (7-9). We found 4 patients (2.0% of subjects tested) with ACD to S, therefore, at present the commonest sensitizer among topical medicaments used for AV in our area. Allergy to T (1 case) and BP (2 cases) was also found. All patients developed eczematous reactions many weeks after starting therapy. ACD from these drugs may sometimes be interpreted as irritant or as worsening of AV (10). Every patient with a cutaneous reaction to these agents should therefore be patch tested. No cases of sensitization to clindamycin or erythromycin were found, confirming the rarity of adverse cutaneous reactions to these topical antibiotics (11, 12).

References

1. Thomas J R, Doyle J A. The therapeutic uses of topical vitamin A acid. *J Am Acad Dermatol* 1981; 4: 505-513.
2. Cunliffe W J, Molland K T. The effect of benzoyl peroxide on acne. *Acta Dermato-venereologica* 1981; 61: 267-269.
3. Fisher A, Alexander. The safety of topical erythromycin. *Contact Dermatitis* 1976; 2: 43-44.
4. Tomb R, Dolfus A, Couppie P. Eczéma par allergie de contact à la trétinoïne. *Ann Dermatol Vénereol* 1992; 119: 761-764.

Table 1. Acne series: patch test results

Allergen		False-positive reactions		Positive reactions	
		no.	%	no.	%
clindamycin	1% gel	3	1.5	—	—
erythromycin	2% eth.	2	1.0	—	—
tretinoin	0.05% pet.	2	1.0	1	0.5
erythromycin	3% pet.	—	—	—	—
spironolactone	5% pet.	2	1.0	4	2.0
benzoyl peroxide	5% gel	31	15.2	2	1.0
tretinoin	0.05% eth.	61	30.0	1	0.5
benzoyl peroxide	2% pet.	6	2.9	2	1.0
*azelaic acid	20% pet.	3	4.8	—	—
**ammonium lactate	14% pet.	2	3.8	—	—

Tested in 204 patients except: * tested in 62 patients; ** tested in 52 patients.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.