

hands (6), the % of occupational cases has remained stable (Fig. 1).

We have shown a marked stability of the % MOAHLFA index at a single centre over a 15-year period. We noted 2 changes in this index and would be interested if these changes have been noted in other centres.

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Occupational contact dermatitis from acrylic monomer in paint

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Key words: paint; acrylic resin; allergic contact dermatitis; diethyleneglycol diacrylate; occupational; car factory; material safety data sheet. © Munksgaard, 1999.

Case Report

A 23-year-old man presented with erythema and scaling of 1 month's duration on his left thumb and index finger. He was working at a car factory, painting metal plates with a spray, holding them between his left thumb and index finger, which became contaminated with paint. He

had begun working in that section several months prior to the onset of his dermatitis. Examination revealed erythema and scaling, with induration, tenderness and itching on his left thumb and index finger (Fig. 1).

He was open tested with undiluted paint. Severe erythema and edema appeared within 5 min. The same open patch test was negative in 2 volunteers (the authors). Its material safety data sheet gave its composition as 45%–50% xylene, 15%–20% butyl acetate, and acrylate. Contact dermatitis due to the acrylate was suspected and further tests were carried out.

Closed patch testing with the paint after heat treatment was negative (Table 1). The paint was stated to



Fig. 1. Erythema and scaling on the left thumb and index finger.

Table 1. Patch test results

	D2	D3
paint after heat treatment (as is)	–	–
acrylic monomer in the paint (1% pet.)	+	+
hexanediol diacrylate (0.5% pet.)	–	–
triethylene tetramine (0.5% pet.)	–	–
diethylene tetramine (1.0% pet.)	–	–
2-ethylhexyl acrylate (0.1% pet.)	–	–
1,6-hexanediol diacrylate (0.1% pet.)	–	–
diethyleneglycol diacrylate (0.1% pet.)	+	+
pentaerythriol triacrylate (0.1% pet.)	–	–
benzophenone (5.0% pet.)	–	–
resorcinol (5.0% pet.)	–	–
resorcinol monobenzoate (1.0% pet.)	–	–
bisphenol (1.0% pet.)	–	–

contain only 1 acrylate monomer, MW 12000. A closed patch test with this monomer showed a positive (+) reaction. Patch tests with an acrylate series revealed that he was sensitive to diethyleneglycol diacrylate.

The patient used a topical corticosteroid ointment, avoided further exposure to paint and became free of dermatitis.

Discussion

Acrylate resins are widely used in acrylic dentures, printing inks, windscreens, adhesive tapes, etc. (1). Monomers can be made to polymerize or copolymerize by using heat, UV or accelerators (2). Since Fisher (3) described methyl methacrylate monomer as a sensitizer, there have been many reports of contact dermatitis due to various other acrylic monomers (2). In Jordan's (4) study, some subjects

showed broad cross-reactions to acrylates. The company released no details of the acrylate monomer in our case; hence, we do not know whether or not the patient's allergic reaction to diethyleneglycol diacrylate was a cross-reaction. Because acrylate monomer penetrates the usual gloves (1), special gloves were recommended.

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