

Toxic reactions to skin markers

A. DOOMS-GOOSSENS

Department of Dermatology, Akademisch Ziekenhuis St. Rafaël, 3000 Leuven, Belgium

In April 1977, Björnberg reported a case of toxic reactions to a patch test skin marker containing fuchsin and silver nitrate.

We observed identical reactions using a skin marker based on pyrogallol and ferric (III) chloride, recommended by the International Contact Dermatitis Research Group (Fregert & Bandmann 1975). Toxic reactions occurred after using this solution for 3 months. Concentration by evaporation could well explain this toxic effect.

Therefore, skin marker solutions should be prepared monthly.

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Hypersensitivity to copper verified by test with 0.1 % CuSO_4

LARS FÖRSTRÖM, RAIJA KIISTALA AND KYLLIKKI TARVAINEN

Department of Dermatology, University Central Hospital, Helsinki, Finland

In the literature only about ten cases of allergic dermatitis due to epicutaneous exposure to copper have been reported (Bockendahl et al. 1974, Düngemann et al. 1972, van der Meer 1957, Morris 1952, Saltzer & Wilson 1968). Even in those cases there is some doubt as to the allergic nature of the reaction since epicutaneous tests were performed either with high concentrations of CuSO_4 (1.25–5 %) or with metal samples, which are known to cause toxic reactions (Gaul 1958a, b). The following case shows that true copper hypersensitivity does exist.

A 28-year-old male, who had done welding for 10 years, presented with a hand dermatitis which had lasted for 2 years. The eczematous changes were localized mainly to his left palm, in which he had been holding the welding mouthpiece, which consists of brass (an alloy mainly of copper and zinc), but changes also occurred on the fingers of his right hand, where he had been holding the copper-covered welding wire. He had had no previous skin disease. However, from the age of 6 to 13 years he had suffered from allergic rhinitis

due to grass pollen, and his twin sons had atopic dermatitis.

On examination the left palm showed redness and scaling and there was rhagades between the fingers of the left hand. The right palm showed eczema over a small area and there was slight desquamation between two of the fingers of the right hand. Routine blood tests were normal as was urinalysis. Culture for bacteria from the left palm revealed growth of *Staphylococcus epidermidis* only. Scratch tests showed allergy to grass pollen. Routine epicutaneous tests using the chamber method of Pirilä (1975) with removal of the tests 24 h after application were negative, including bichromate 0.5 %, cobalt 1 %, nickel 2.5 % and mercury 0.1 %. Tests with copper sulphate (2 and 1 % in petrolatum) were negative after 24 h but strongly positive after 72 and 96 h. A test with copper sulphate (0.1 % in petrolatum) was negative after 24 and 48 h but moderately positive (++) after 96 h. The same tests with copper sulphate gave negative results in three control patients. Tests with cadmium were not performed.

The positive test result produced by copper sulphate, even at a concentration of 0.1 %, and the late development of the reaction indicate that it was allergic in nature. Recently, a positive test result with 0.1 % copper sulphate has been obtained also in a case of allergic reaction to Copper T (Forck et al. 1977). A similar case after internal exposure to copper has been described previously (Barranco 1972), but patch testing was done with a 5 % solution of copper sulphate only.

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Dermatitis from *Arnica montana*

EDWARD RUDZKI AND ZDZISŁAWA GRZYWA

Department of Dermatology, Warsaw Medical School,
Koszykowa 82a, Warsaw 02 008, Poland

A housewife, aged 72, applied an infusion of *Flores arnicae* to an abrasion of the left leg in June 1969. This is a popular drug used in folk medicine in Poland; it is prepared from *Arnica montana* (Compositae). After 1 week's application, a dermatitis appeared on the treated area and spread to the neck and face. The lesions persisted for several weeks.

In 1971 her husband planted some flowers in the garden not knowing that they were *Arnica montana*. When the patient weeded the flower bed containing the plants and transplanted them, dermatitis appeared on her hand and the left cheek which she had touched with her hand after working in the garden. In the

course of 24 h the changes in the skin became more intense and they persisted for about 2 weeks. The patient was tested with a standard series of contact allergens and was positive only to turpentine. Her husband destroyed and removed the *Arnica* plants from the garden.

Toward the end of April 1976 she had dermatitis around the orbits for several days. She believed it was connected with the flowering of *Arnica* plants in a neighbour's garden. The latter had been cultivating this plant received from the patient 4 years earlier.

In April 1977 she had pain in her back which she rubbed with a mixture of turpentine