

Later studies do not altogether support the corticosteroid cross-reactivity patterns that Coopman et al. (3) proposed. Burden & Beck (4) and Wilkinson et al. (5) found simultaneous positive patch tests to tixocortol pivalate, hydrocortisone-17 butyrate and budesonide. In a 1996 multicentre European study (1), a statistically significant correlation was found between positive tests to budesonide and hydrocortisone-17 butyrate. On the other hand, and in contrast with the report of Wilkinson & English (6), our patient did not react to the intradermal injection of hydrocortisone sodium phosphate, although he had a positive patch test to tixocortol pivalate.

Our data do not allow us to confirm whether these results are due to concomitant sensitization or to cross-sensitivity.

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Piperazine diacrylamide allergic contact dermatitis

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Piperazine diacrylamide (1,4-di-(1-oxo-4-propenyl) piperazine, C₁₀H₁₄N₂O₂ (CAS 6342-17-2)) (Fig. 1), a fine white crystalline material with water solubility, is used as a reagent, a crosslinker for acrylamide gels (polymer), in hand-cast gels for 2-dimensional electrophoresis and in column chromatography (1).

Case Report

A 26-year-old man was referred to determine whether his skin disorder was work-related. His job consisted of mixing crystalline granules into solution. He noticed periorbital erythema and a 1.5 cm pruritic red plaque on his right forearm above the level of his glove. 4 days later, a similar horizontal lesion approximately 3 cm in length appeared on the left arm.

He was patch tested with an extended standard series, and most of the chemicals that he worked with. These included N,N,N',N'-tetramethylethylenediamine 0.1% pet., ammonium persulfate 2.5% pet., 2-acrylamido-2-

methyl-1-propanesulfonic acid 0.1% pet., 1,4-di-(1-oxo-2-propenyl) piperazine 0.05% and 0.1% pet., diallyldimethylammonium chloride 0.1% aq., and methacrylamide 0.5% pet. Finn Chambers (Epitest) were applied to the back for 2 days and read at 4 days utilizing the ICDRG criteria (2). There were ++ reactions to 1,4-di-(1-oxo-2-propenyl) piperazine 0.05% and 0.1% pet. but none to the other materials.

After he redesigned his laboratory workplace to avoid contact with piperazine diacrylamide, the skin lesion did not recur.

Discussion

We tested 1,4-di-(1-oxo-2-propenyl) piperazine at 0.1, 0.2 and 0.5% pet. in 20 normal controls (3). We did not find any irritation or active sensitization in these controls. Thus, the concentrations used should be suitable for patch testing.

References

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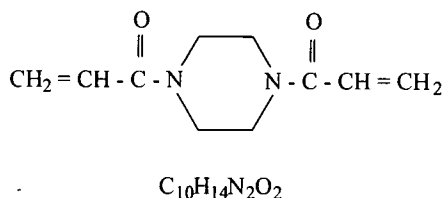


Fig. 1. Chemical structure of piperazine diacrylamide.

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