

Toxic reactions to a patch test skin marker containing fuchsin-silver nitrate

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The following preparation is used as a skin marker to indicate the exact site of each patch test (in per cent): fuchsin 0.5, silver nitrate 10, purified water 15, absolute alcohol ad 100.

It was often noticed that superficial necrosis might follow application of the marker solution, leaving slight scars or hyperpigmentations which were visible for months. This seemed to happen only when the bottle of solution had been used for some time. Concentration by evaporation seems to explain this toxic effect.

Investigation

An "old" bottle of the skin marking solution which had been observed to give adverse skin reactions in patients was used for testing. A drop of this liquid was applied to the volar aspect of the forearm as an open test, just as

in the marking of the test sites. After 20 minutes a slight burning pain was noticed at the site of application, which lasted for about 24 hours. By that time a superficial necrosis had developed with loosening of the epidermis to leave a yellowish moist erosion (Fig. 1). This healed in 10 days but was followed by hyperpigmentation which was still present at the end of 2 months marking the site of the reaction.

Histologically the epidermis showed pronounced toxic changes with acantholysis and necrosis (Fig. 2). The horny layer contained black particles of various sizes probably derived from the marker solution. They did not penetrate into the epidermis.

Separate control tests with fuchsin (0.5, 1.2 %), silver nitrate 10 %–20 %, and 1 % fuchsin together with 20 % silver nitrate did not provoke any skin reactions.

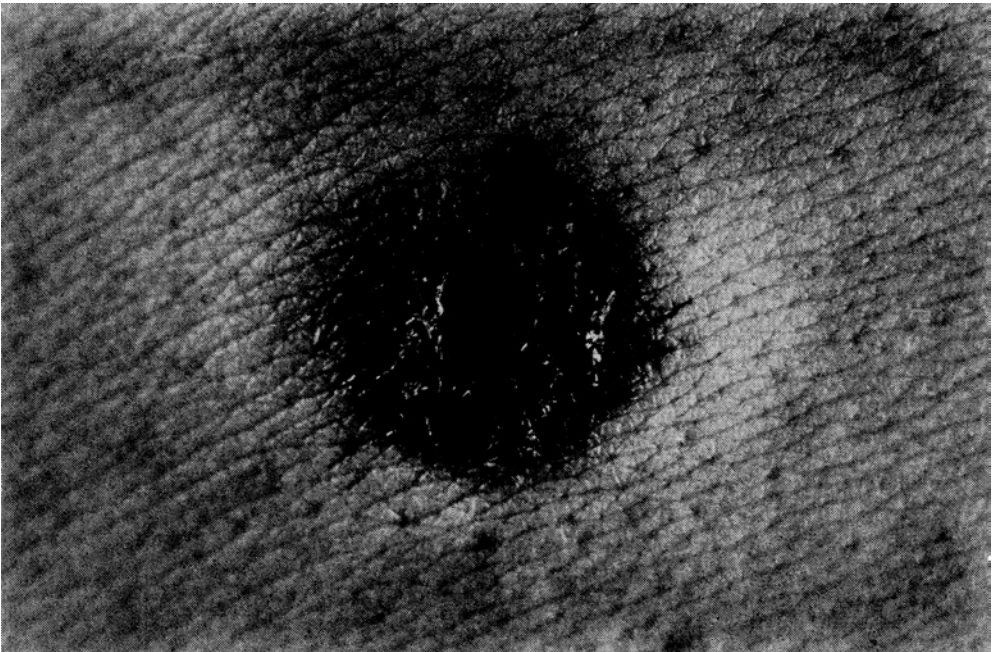


Fig. 1. Skin marking with old fuchsin-silver nitrate preparation. Loosening of necrotic epidermis after 24 hours.

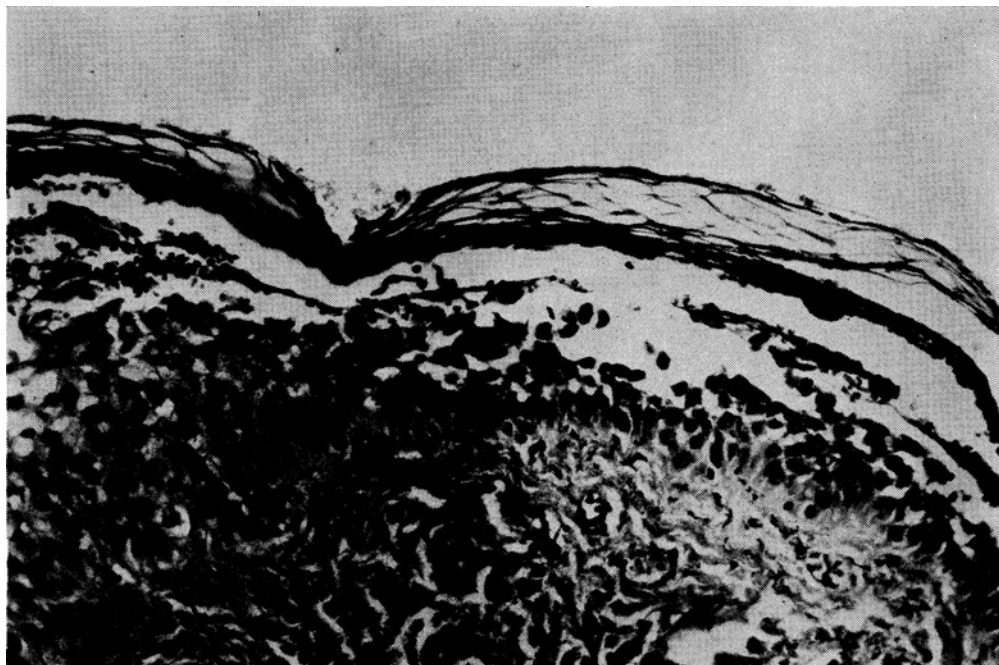


Fig. 2. Toxic epidermal lesions 24 hours after application of fuchsin-silver nitrate skin marker.

Conclusion

The fuchsin-silver nitrate skin marker used for patch testing may cause toxic reactions if allowed to become concentrated through eva-

poration. These reactions may be followed by disfiguring superficial scars and hyperpigmentation which persists for months. It is therefore important to ensure that the solution used is fresh.

PPPP syndrome

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A woman aged 21 years gave an 18-months' history of pruritis in the contact area of her brassiere; erythematous-squamous, haemorrhagic purpuric lesions and petechiae developed in the same area. After a year these lesions have disappeared leaving macular pigmented and pruritic patches on the breasts, inter- and sub-mammary regions, around the axillae and on the back.

Patch tests: Standard International Series

– Negative

Material from brassieres – Negative

Special rubber series (41 allergens)

Diphenyl-paraphenyldiamine

(0.5 % pet.) + + +

N-phenyl-N-isopropyl-paraphenyl-
endiamine (0.1 % pet.) + + +