

SIMULTANEOUS MANIFESTATIONS OF CONTACT DERMATITIS TO MULTIPLE ANTIGENS

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Summary

An individual can be sensitive to several antigens, but clinical manifestations of sensitivities to all antigens at the same time is rare. A patient is described who showed contact dermatitis to shaving cream, plastic frame of his spectacles, soaps remaining in the clothes during washing and the rubber slippers. Patch tests to all these substances were positive and withdrawing these substances from contact led to disappearance of the lesions.

The pattern of distribution of lesions in a patient of contact dermatitis helps in suspecting the causal allergen (Fisher, 1968). It is also known that an individual can be allergic to more than one antigen (Baer, 1959). But clinical manifestations of contact dermatitis to several antigens at the same time in an individual is rare and creates difficulties in suspecting the causative antigens.

This report concerns a patient, who showed simultaneous manifestations of contact dermatitis to several substances, which were later confirmed by patch tests. Clinical improvement on withdrawal of these substances further corroborated the diagnosis.

Case Report

A 37-year-old physician was seen for recurrent ill defined areas of erythema and scaling on the face, around the neck, cubital and popliteal spaces and dorsa of both feet involving a V-shaped area. Several members of his family

suffered from atopic disorders. Both his parents and one elder brother had allergic rhinitis and one younger sister had chronic urticaria.

His blood revealed mild eosinophilia (Absolute eosinophil count 350 cells/cmm). 'Delayed Blanch' could be demonstrated with an intradermal injection of 0.025 mg carbachol (West et al, 1962). Urine and stools were normal.

He was admitted into the hospital and treated with local and systemic corticosteroids. In 2 weeks he improved and was sent home, but 4 weeks later, he reported again with a fresh relapse. This time, lesions on the face were exudative papulovesicles in the beard region and the area in contact with the frame of his spectacles (Fig. 1). The neck, cubital and popliteal spaces and the V-shaped area on the feet continued to show erythema and scaling.

At this time he was diagnosed as a case of contact dermatitis to shaving cream, plastic frame of the spectacles, clothes and the rubber slippers. Avoiding further contact with these substances resulted in healing, when patch



Fig. 1

Papulovesicular lesions in the beard region and the areas in contact with the frame of spectacles

tests were performed. Positive reactions were obtained with a variety of shaving creams, some toilet soaps, scrapings from the frame of his spectacles and the rubber material of his slippers. On withdrawing these agents from contact, he is now free from his disease for the last one and half years.

Discussion

Distribution of the lesions and subsequent positive patch test reactions leave little doubt that this patient was sensitive to the rubber slippers, shaving cream, plastic frame of his spectacles and clothes. Sensitivity to all these materials can be due to the presence of (1) a common antigenic substance, (2) cross sensitivity between two or more chemically related substances, or (3) independent sensitivity to multiple antigens.

Sensitivity to finished rubber has been attributed to various antioxidants such as monobenzyl ether of hydroquinone or accelerators such as disulfiram or thiram (Fisher¹). Less commonly other substances may be responsible.

Contact dermatitis to clothes can be due to the material of the fibre itself, the dyes, formaldehyde, or the detergent remaining in the clothes after washing (Martin-Scott, ⁴). In this patient patch tests to the material of the clothes were negative, but positive reactions were obtained to soaps and proper rinsing of clothes during washing prevented further recurrences of dermatitis.

Sensitivity to shaving creams have been noted occasionally and the antigen can be detergents, anti-infective agents, perfumes, or lanolin (Fisher,¹ and Adams,⁶). Patch tests to a variety of commercial shaving creams were positive which suggests that in this case the sensitivity was to the basic ingredient and not the anti-infective agents or perfumes.

Allergy to the plastic of the spectacles frame has been attributed to triphenyl phosphate (TPP) and patients sensitive to triphenyl phosphate also cross react with tritolyl phosphate which is extensively used as a plasticizer in polyvinyl chloride (PVC) (articles Pegum, ⁵).

In this patient however, all the materials to which he showed sensitivity, do not seem to contain any common substance. This, therefore, seems to be an instance of independent multiple sensitivities. This is by no means an unusual occurrence because every individual has the capability to get sensitized to a large number of antigens. The interest of this case lies in the fact that the clinical manifestations were present all at the same time. The presence of strong family history of atopy and the 'Delayed Blanch' phenomenon are apparently co-incidental findings and most authors are agreed that the atopic state does not predispose an individual to develop contact dermatitis (Fisher,¹ and Rook et al,⁷).

1. Fisher AA : Contact dermatitis, Philadelphia, Lea and Febiger, 1968, pp 50, 118, 173, 209.
2. Baer LR : Multiple sensitivities JAMA 170 : 1041, 1959.
3. West JR, Johnson LA and Winkelmann RK : Delayed-Blanch phenomenon in atopic individuals without dermatitis. Arch Derm 85 : 227, 1962.
4. Martin - Scott I : Contact textile dermatitis Brit J Derm 78 : 632, 1966.
5. Pegum JS : Contact dermatitis from plastics containing triaryl phosphate. Brit J Derm 78 : 626, 1966.
6. Adams RM : Occupational contact dermatitis, Philadelphia and Toronto, J B Lippincot Company, 1969, p 205.
7. Rook A, Wilkinson DS and Ebling FJG : Textbook of Dermatology, Oxford and Edinburgh, Blacwell Scientific Publications 1969, p 234.

TRUE or FALSE ?

Long term treatment with antibiotics like sulfonamides and broad spectrum group like tetracycline and chloromycetin have been found beneficial in cases of acne vulgaris.

(Answer page No. 264)