OCCUPATIONAL LEUCODERMA

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Summary

A case of occupational leucoderma is reported. The patient showed positive patch test with adhesives used by him. Depigmentation appeared at the site of positive patch test with one of the adhesives. The disease became generalised in due course of time.

KEY WORDS: Occupational leucoderma, Cobbler, Patch test, Depigmentation.

Introduction

Occupational leucoderma was first described in 1939 by Oliver et al[1] on the skin of the hands of American negro, white and Mexican workers wearing a certain brand of 'acid cured' gloves in tanneries and other industries. They traced the cause to monobenzyl ether of hydroquinone used as an antioxidant in the rubber. Since then, leucoderma has been recognised as an occupational hazard in various industries engaged in handling alkyl phenols. Gellin et al[2] reported four cases of leucoderma in a group of 75 tappet assembly workers who were exposed to an oil containing paratertiary butyl catechol as an anti-corrosive agent. Malten et al[3] observed five cases of depigmentation due to paratertiary butyl phenol. In the present communication, a case of localised occupational leucoderma passing on to generalisation of leucoderma within two years in a cobbler is reported.

Case Report

A 16-year-old cobbler boy presented in September 1980 with depigmentation on the right index finger (Fig. 1) of one year's duration. Initially there was mild itching and redness at the involved site. Depigmentation appeared after 6 to 8 weeks. Patient used the finger for applying adhesives while manufacturing shoes. He was using various types of adhesives for the purpose. On examination, depigmentation was confined to the right index finger. Patch tests showed a positive reaction to three out of the four adhesive materials used by him. After five days of removing the patches, hypopigmentation was observed at the site of test with one of the adhesives (Fig.2). The hypopigmentation persisted only for one month. The patient was advised not to use that particular adhesive. He reported again in March 1982 with generalised leucoderma (Fig. 3). Patch tests were repeated with the same and other new

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Fig. 1

Leucoderma on the right index finger.

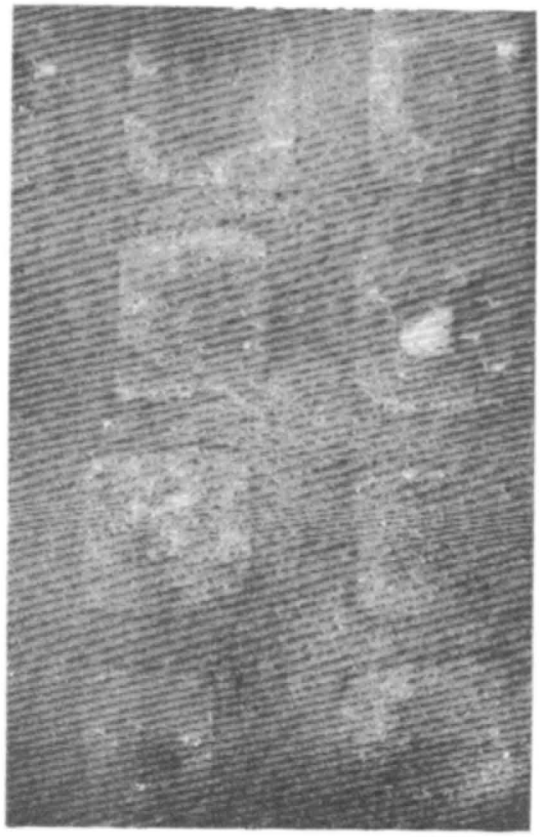

Fig. 2

Patch test site showing hypopigmentation.

adhesives used by him, in 10 percent concentration in methyl ethyl ketone. He was also tested with 10 percent phenol formaldehyde resin in ethyl-acetate, 20percent neoprene in toluene, 3 percent phenol in water and one percent formaldehyde. For the control, all the bases used were also tested. This time, the patch test was positive to the new adhesive alone which he had been using for the previous 10 to 12 months. The positive reaction subsided after 3 days without any change in the skin colour.

Discussion

Malten[4] and Calnan and Harman[5] described contact dermatitis on fingers and palms of cobblers due to para-tertiary butyl phenol in various types of shoe adhesives. They did not observe depigmentation in these patients. Later, cases of depigmentation[3] from alkyl phenols were also reported.

In the present case, depigmentation was apparently due to contact with the shoe adhesive, as it developed at the site of contact and remained confined to that area for about one year. This was further substantiated by the fact that patient showed positive patch test with the adhesives he used and development of depigmentation at the site of the test with one of them. The cause of leucoderma might be the death of the melanin producing cells as these substances probably react with the tyrosinase in melanosomes and then form a secondary product which diffuses into the cytoplasm and kills the cells as suggested by Riley[6]. The generalisation of leucoderma in the present case is very unlikely to be due to external contact alone as many lesions were at sites which were not likely to come in contact with the adhesives. This could be either due to absorption of the chemical through the skin or its inadvertant ingestion.

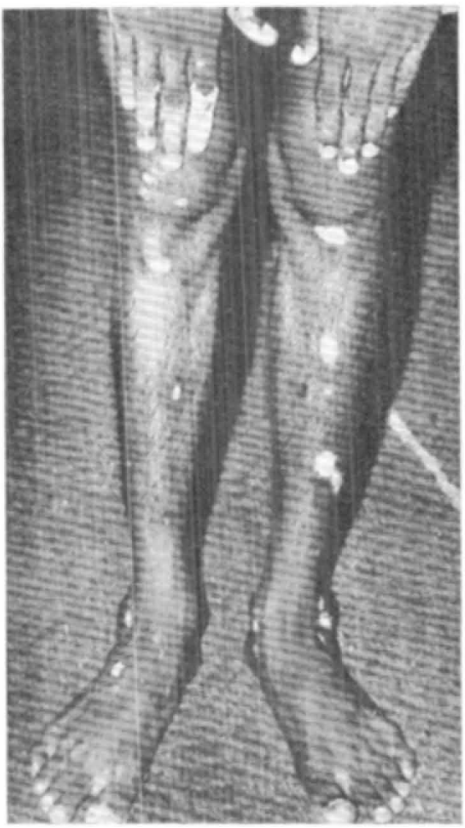

Fig. 3 Generalised leucoderma on various parts of the body.

The exact nature of the chemical producing depigmentation could not be ascertained due to non-cooperation of the adhesive manufacturers.

References:

1. Oliver EA, Schwartz L, Warren L: Occupational leucoderma : Preliminary report, JAMA, 1939; 113 :929.

2. Gellin GA, Possick PA, Perone VB: Depigmentation from 4-tertiary butyl catechol: An experimental study, J Invest Dermatol, 1970; 55: 190-197.

3. Malten KE, Seutter E, Hana I, et al: Occupational vitiligo due to para-tertiary butyl phenol and homologues, Trans St John's Hospital Dermatological Society, 1971; 57: 115-134.

4. Malten KE: Occupational eczema due to para-tertiary butyl phenol in a shoe adhesive, Dermatologica, 1958; 117:103-109.

5. Calnan GD, Harman RRM: Studies in contact dermatitis: IX Sensitivity to para-tertiary butyl phenol, Trans St John's Hospital Dermatological Society, 1958; 43:27-32.

6. Riley PA: Mechanism of pigment cell toxicity produced by hydroxy-anisoles, J Pathology, 1970; 101:163-169.

ABSTRACT

Herpes Zoster Maxillary Division – A case report : Lt Col SM Bhale Rao, Major KV Singh, Lt Col TR Kapur, Military Hospital, Bareilly (UP) Ind Med Gazette, 1983, 118 : 209-210.

Herpes Zoster of the maxillary division of trigeminal nerve is very rare. A case is presented with a review of the literature. The patient responded to treatment without sequelae.