

PROMETHAZINE PHOTSENSITIVE DERMATITIS

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It is well established that promethazine can cause photosensitive dermatitis in individuals who have become sensitised to it. Tzank *et al* (1951) reported this reaction in two patients following combined external application and internal administration of the drug. Sidi *et al* (1955) and Epstein (1960) recorded this complication of promethazine in patients who had only used it externally. Epstein et Rowe (1957) and Newill (1960) documented examples of similar reactions from oral ingestion of the drug.

In the Middle Road Hospital, promethazine accounts for not a few of the many cases of photosensitive dermatitis seen each year. Photosensitive reactions from external and internal use of the drug are encountered. In many of these cases the drug continued to be used in spite of the appearance of an obvious dermatitis affecting the light exposed parts of the body, apparently from a lack of awareness that an iactrogenic disorder has been created. So often in these patients the continued use of promethazine only served to perpetuate the adverse reactions. This has prompted the author to record the following fairly typical examples of this unusual drug reaction.

Case I: 39 years old, female, Chinese, sales clerk, whose skin trouble started in April 1968 with 'an itchy spot' on the right ankle. Self medication with dettol washing and nixoderm only aggravated the condition. She was then given Jadit-H by her doctor. This improved the rash somewhat but did not clear it. On 3.6.68 she was given Periactin tablets and propamide-promethazine cream. Several days later the dermatitis became worse, spreading beyond its original site to the face, neck and limbs. She was then given prednisolone tablets and calamine lotion, which when stopped resulted in reappearance of the dermatitis. At this stage she was referred for investigation.

A diffuse, red and itchy dermatitis was found, on the face, neck and limbs, clearly demarcated at the collar, sleeves, skirt and shoes. Patient felt that the rash was aggravated by sunlight. 1 minute irradiation of unaffected skin with unfiltered Alpine Sun Lamp at two feet distance produced a minimal erythema 24 hours later. 10 minutes irradiation through window glass

produced no reaction even 96 hours later. Positive patch test and photopatch test were elicited with 2% promethazine ointment, but not with Jadit.

The dermatitis cleared with treatment. However, the patient had to avoid prolonged exposure to strong sunlight, wore long garment, and used sun screen lotion over uncovered parts for several weeks thereafter.

Case II: 34 years old, female, Chinese, school teacher was investigated for a severe itchy, red and swollen dermatitis of the neck and limbs in April 1966. The face, which was well covered with cosmetic powder, was not affected. For 4 years she had recurrent attacks of similar dermatitis following fishing trips and picnics at the seaside during Easter and August school vacation. On several occasions she was given prednisolone, antihistamines including 'Blue pills' and lotions containing antihistamine-calamine-menthol by her doctor.

Half minute irradiation of unaffected skin with unfiltered Alpine Sun Lamp at 2 feet distance produced a minimal erythema 24 hours later. Positive patch test and photopatch test were elicited with 2% promethazine ointment, but not with 4 different brands of toilet soap she had used at the time.

On stopping promethazine the dermatitis cleared with treatment in 3 weeks. However, she had to avoid prolonged exposure to strong sunlight, wore long garment and used sun screen lotion on uncovered parts for a long time thereafter.

She had no major attacks of the dermatitis since then. However, on one occasion 9 months later, without using sun screen lotion, she took the pupils for physical training under the morning sunshine for 25 minutes. The same evening she experienced mild itching and redness of parts that had been exposed to the sun. On another occasion, following prolonged exposure of the neck to sunlight, there was a recurrence of mild dermatitis, not only of the neck, but also of those parts which had been affected by the dermatitis in previous years.

Case III: 18 years old, Chinese, school girl, was given promethazine cream and chlorpheniramine maleate tablets for an itchy rash on the neck on 15.2.69. Within a few days the rash became worse, spreading to all the light exposed parts of the body. She was seen by a second doctor and given prednisolone tablets and Burows solution, which gave temporary relief. The dermatitis was aggravated by exposure to sunlight. On 5.3.69 she saw a third doctor who gave her promethazine tablets, vitamin C and calamine lotion. The dermatitis became much worse and she was referred for investigation on 7.3.69.

One minute irradiation with unfiltered Alpine Sun Lamp at 2 feet distance produced an erythematous reaction 24 hours later. 20 minutes irradiation through window glass produced no reaction. Patch test with 2% promethazine cream gave no reaction. Photopatch test gave a positive reaction to promethazine cream but not a shampoo she had been using.

The dermatitis subsided with hospitalization, vitamin C and hydrocortisone cream. Subsequently she had to avoid prolonged exposure to sunlight, wear long garments and use a sun-screen lotion on uncovered parts. This patient is still on follow-up.

COMMENTS

All the cited reports of promethazine photosensitive dermatitis from France, U.S.A. and England have occurred during northern hemisphere summer. In this country scattered cases are seen throughout the year. However, the majority of patients develop their first reaction, or experience recurrence of their dermatitis around the months of March and August. During these months the sun is crossing the equator.

It would appear that strong sunlight, or part of its spectral energy, is involved in the mechanism of production of promethazine photosensitive dermatitis. Since sensitised individuals exhibit lower threshold to artificial ultra violet radiation, it is hypothesised that clinical reactions following exposure to sunlight may be due to its ultra violet spectrum.

The first reaction against promethazine usually follow combined external or internal use of the drug and exposure to sunlight. Once sensitization has occurred, subsequent exposure to either drug or sunlight alone invariably result in further reactions. This reactivity to drug or sunlight is known to persist for several months or years.



Fig. 1(a)

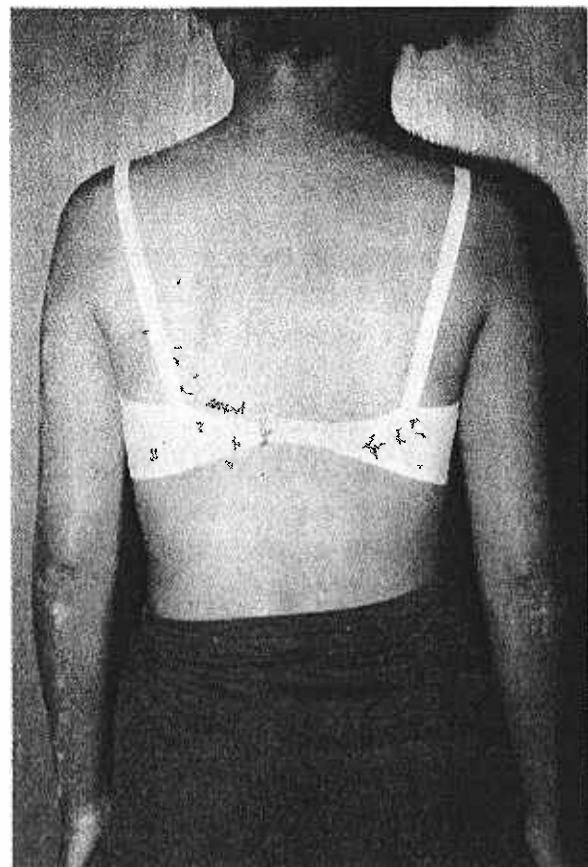


Fig. 1(b)

Figs. 1(a) and (b). Showing distribution of dermatitis on the light exposed parts of the body.

It is generally felt that external use of promethazine should be avoided because of the high frequency of photosensitization attributed to it. Given internally, the drug remains one of the best antihistamines available. It is suggested that its internal use, particularly in the tropics, should be attended by an awareness of its potential photosensitization effect. The drug should certainly not be given to anyone known to have reacted against it in the past.

SUMMARY

Promethazine, used externally or internally, has been known to give rise to photosensitive dermatitis in some individuals. Because of an apparent lack of awareness of this complication of the drug, three examples of this clinically recognisable reaction and their management are described in this paper.

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