Fixed Drug Eruptions

A Report of Two Cases, One Caused by Niacin, the Other by Cocaine

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FIXED ERUPTIONS have been recognized since the original report by Brocq[3] in 1894. Abramowitz[1] in 1941 reviewed the subject very thoroughly and listed the following drugs as having caused fixed eruptions:

Acetanilid
Acetylsalicylic acid
Acriflavine
Aminopyrine
Antimony and potassium tartrate
Antipyrine
Arsenicals (acetylarsan, arsphenamines, mapharsen, tryparsamide)
Barbiturates
Bismuth salts
Cinchophen
Eucalyptus, oil of
Iodides
Ipomea
Isacen
Magnesium hydroxide (magnesia magma)
Mercury
Phenolphthalein
Quinine
Salicylates
Sulfanilamide and its derivatives

Since then the list has been enlarged to include:

Atabrine (mepacrine, quinacrine)[8, 9]
Aureomycin[6, 13, 14]
Benadryl (crossed fixed eruption with sulfanilamide)[5]
Bromides[9]
Diphenylhydantoin sodium (dilantin, phenytoin sodium)[2, 11]
Penicillin[4, 10]
Phenacetin[7, 9]
Terramycin[6, 13]

This paper is presented to report additional causes of fixed eruptions.

CASE 1. A 37-year-old white secretary was first seen November 4, 1952, because of pruritic dermatitis of three or four weeks' duration. The patient had occasional migraine, for which she had been taking nicotinic acid since July of 1952. She also took Empirin Compound (acetophenetidin, acetylsalicylic acid, caffeine) at intervals, and secobarbital sodium.

There was an erythematous, papular and urticarial plaque on the ulnar aspect of the left wrist.

Dermatitis disappeared when all medication was discontinued. It was not reproduced by Empirin Compound or by secobarbital. Nicotinic acid, 50 mg. four times a day, repeatedly reproduced the eruption. The patient found that if she took 25 mg. four times a day the dermatitis did not appear. If she continued 25 mg. four times a day for three or four days, she could then increase to 50 mg. four times a day with only a moderate recurrence of the eruption, which appeared as erythema 15 minutes after ingestion of the drug and persisted for an hour or two.

CASE 2. A 36-year-old white schoolteacher was examined in December, 1945, because of a pruritic eruption of about 18 months' duration. There was a lichenified, erythematous, excoriated plaque on the posterior scrotum and the adjacent perineum. Clinically, the lesion resembled lichen simplex chronicus and was treated as such with crude coal tar ointment and x-ray therapy. The dermatitis improved somewhat but never cleared completely, although treatment was continued at intervals until October, 1946. The patient was subsequently observed because of another condition. At that time, questioning brought out that the dermatitis had continued until the summer of 1947; he had been symptom-free since except when he was given injections of procaine. Each injection, however small, was followed by pruritus and mild exacerbation of the dermatitis of the posterior scrotum and adjacent perineum. When the history of exacerbations with procaine was obtained, a check was made as to the therapy the patient was receiving at the time the dermatitis first appeared, and during the subsequent years, until the summer of 1947. The history showed that the dermatitis began shortly after treatment for sinusitis was instituted. The treatment was, for the most part, cocaine shrinkage of the mucous membrane and, occasionally, antrum washing. Treatment was begun in May of 1944 and continued until the summer of 1947. At times treatments were given as often as two or three a week, and occasionally as infrequently as once a month.

A single experimental cocaine shrinkage caused a minor amount of pruritus of only a few hours' duration. Neither an ointment of 1 per cent procaine nor 0.5 per cent cocaine rubbed into the area caused a reaction.

DISCUSSION

In Case 1, due to nicotinic acid, the lesion was a fixed eruption of pure urticarial type. The reaction gradually subsided although the patient continued to take the causative drug. The patient refused a request to increase the amount of nicotinic acid taken beyond 50 mg. four times a day because generalized flushing sometimes occurred on the dosage being taken.

In Case 2 the lesion was probably a fixed eruption of urticarial type, with, however, lichenification secondary to excoriation. Pruritus reappeared repeatedly after the injection of procaine. A mild attack occurred after experimental shrinkage of the nasal mucosa with cocaine. Neither cocaine nor procaine locally applied reproduced the symptoms.

A brief review of the literature on hypersensitivity to procaine and to cocaine leads to belief that cross-sensitization does occur.[12] Apparently the patient in Case 2 was capable of reacting to both procaine and cocaine, although only the latter was being used at the time the eruption appeared.

SUMMARY

Two new causes of fixed drug eruptions are reported: Nicotinic acid and cocaine. The eruption due to cocaine could be activated by the injection of procaine.

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