Reversal Reaction—Management with Topical Corticosteroids

TO THE EDITOR:

Mild reversal reaction in borderline Hansen's disease is often treated with analgesics and bed rest, and may require systemic steroids if the reactional state persists ([3]). Six borderline tuberculoid (BT) leprosy patients on dapsone monotherapy with features of mild neuritis were studied. Two similar lesions were selected from each patient and designated as A and B. Lesion A was treated with fluocinolone acetonide (0.025%) under occlusive dressing for 15 days. The lesions were assessed clinically each day, and both lesions were subjected to biopsy after 15 days. The biopsy specimens, stained by hematoxylin and eosin (H&E), were studied by the single-blind method. Twenty-four hours after application of topical steroids, tenderness was significantly reduced over the treated lesions. Erythema and edema were less over the treated lesions compared to control lesions in three cases on day 4 and all six cases by day 6. Microscopic examination revealed less dermal edema, more compact granulomas, and less lymphatic dilatation over the treated lesions compared to controls (Figs. 1A, 1B, 2A, 2B). There was no significant alteration in the number or relative proportions of individual cells constituting the granulomas. Thus it was observed that topical steroids under occlusion rapidly controlled cutaneous manifestations of reveral reaction. Occlusion results in a 100-fold increase in the absorption of topical steroids ([1]).

The granulomas induced by *Mycobacte-*

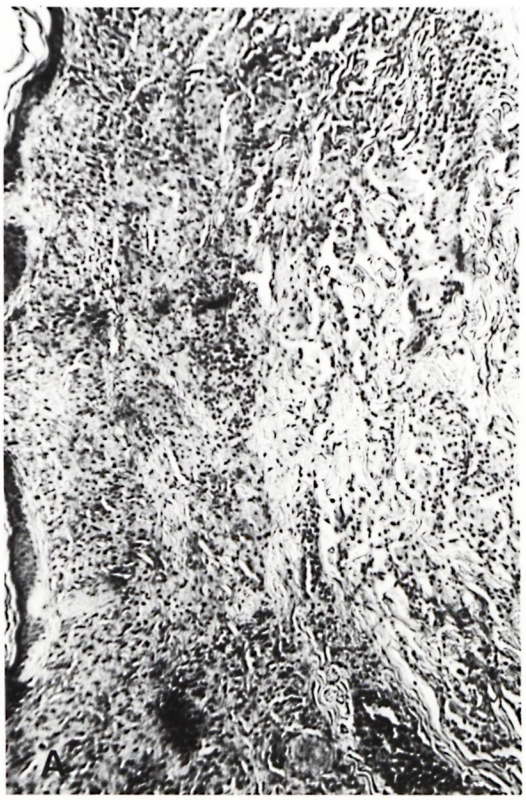

FIG. 1A. Reversal reaction following treatment showing relatively less edema, lymphatic dilatation, and compact granulomas (H&E ×10).

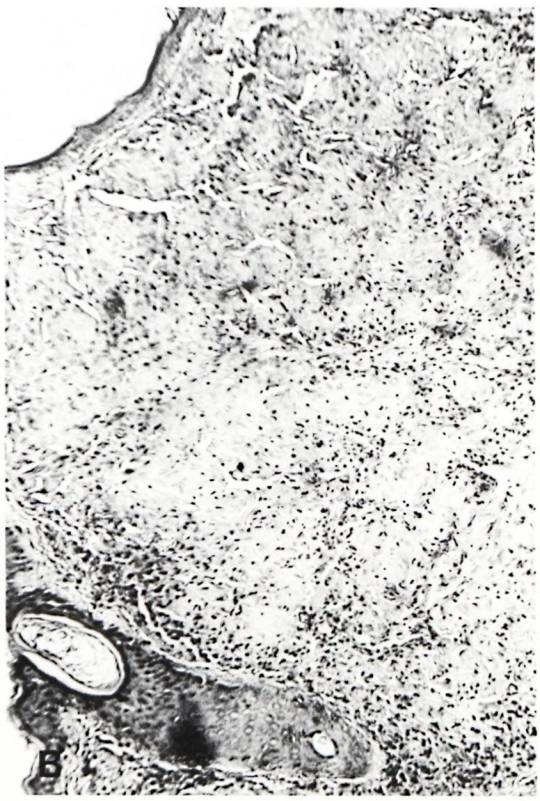

FIG. 1B. Untreated reversal reaction showing marked edema, lymphatic dilatation, and less compact granulomas (H&E ×10).

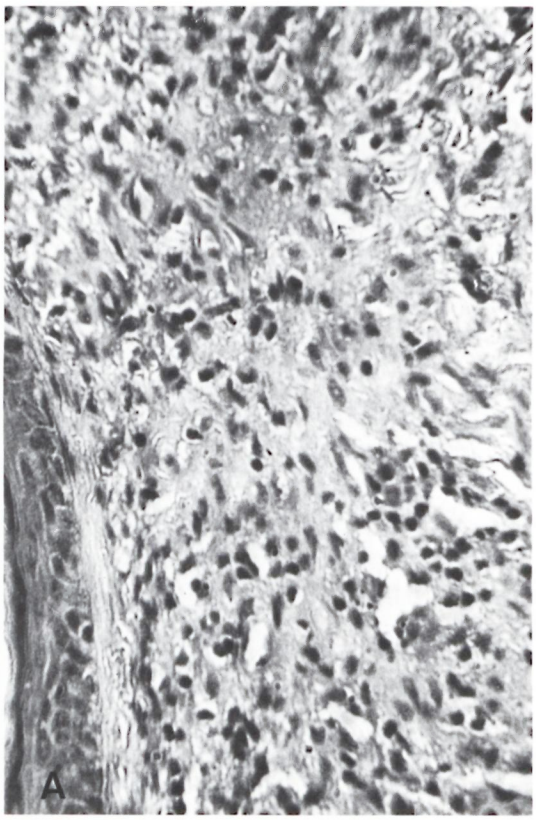

FIG. 2A. Larger magnification of Fig. 1A (H&E ×40).

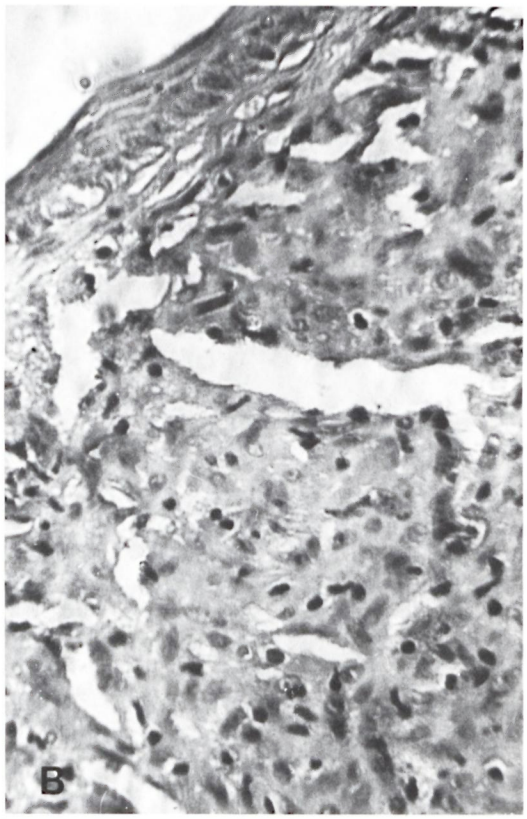

FIG. 2B. Larger magnification of Fig. 1B (H&E ×40).

rium tuberculosis (similar to granulomas induced by *M. leprae*) in sensitized animals contain short-lived replicating, steroid-sensitive T cells ([2]). We feel that the use of topical steroids in selected cases under strict supervision is effective in the treatment of reversal reactions. Our conclusion is based on significant clinical and histopathological improvement assessed by degree of edema, dilated lymphatics, and compactness of the granuloma ([4]). However, hospitalization, cost of topical steroids, and patient compliance may prove deterring factors under certain circumstances.

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Diabetogenic Effect of Dapsone

TO THE EDITOR:

The isoniazid (INH) acetylator phenotype of 79 Brazilian leprosy patients, mostly Caucasoids (22 Negroids), which included 45 males and 34 females, 47 of them with diabetes mellitus (26 males and 21 females, 12 of them Negroids), was assessed by means of Eidus, *et al.*'s method ([2]). All of them were under dapsone therapy for at least 5 years. The same procedure for investigating the INH-acetylator phenotype was applied to 30 Brazilian Caucasoids with diabetes mellitus but without leprosy (14 males and 16 females).

The frequency of the slow INH-acetylator phenotype among the 32 nondiabetic leprosy cases (47%) did not differ significantly from that found among the 30 diabetic individuals without leprosy (53%) or among Brazilian Caucasoids (57%; N = 119) and Negroids (50.4%; N = 115) with pulmonary tuberculosis ([1]). In contrast, the slow INH-acetylator phenotype predominated among the 47 diabetic leprosy patients (76.6%), this frequency being significantly higher than that seen among the nondiabetic leprosy patients, the diabetic persons without leprosy, or the patients with pulmonary tuberculosis.

Regression analysis applied to the data recorded on the leprosy cases has shown that the blood level of glycosylated hemoglobin does not depend upon age, sex, duration of the disease, or years of dapsone therapy, but it is correlated to both the slow INH-acetylator phenotype and the fasting plasma glucose.

The results presented here indicate that diabetes mellitus has no influence on the INH-acetylator phenotype, since the frequency of slow INH-acetylators found among the diabetic individuals without leprosy was almost identical to that observed among nondiabetic Brazilian Caucasoids or Negroids. On the other hand, since the blood level of glycosylated hemoglobin is associated with the slow INH-acetylator phenotype, while the *in vivo* acetylation of dapsone depends on the same acetyltransferase used for acetylating INH ([3–6]), one would infer that slow INH-acetylator leprosy patients when under dapsone therapy would be more exposed to an undescribed diabetogenic effect of this drug than fast INH-acetylators. This fact would explain the high frequency of slow INH-acetylators among the diabetic leprosy patients.

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