

Persistence of Langhans' Giant Cells in Rapidly Downgrading Leprosy Lesions

TO THE EDITOR:

Inflammatory giant cell formation occurs in many diseases and is usually associated with granulomatous infiltration. Langhans' giant cells are a feature of the histopathological cell types found in lesions of tuberculoid and, to a lesser extent, borderline tuberculoid leprosy. They are not a feature in mid-borderline or lepromatous leprosy.

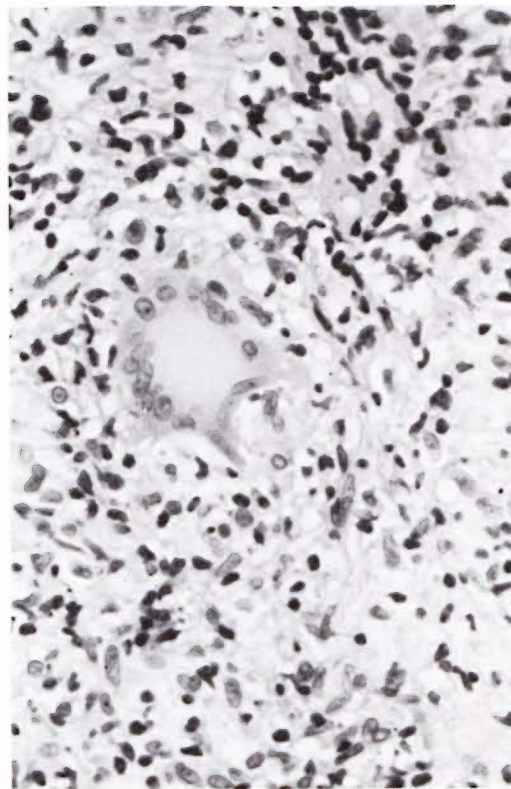
Cell-mediated immunity in borderline leprosy is unstable and, in a review of the outcome of reactions in 12 patients, it was shown that Langhans' giant cells were produced and persisted following upgrading reversal reactions but were not conspicuous in downgrading reactions (¹).

We have recently observed Langhans' giant cells in the histopathology of rapidly downgrading leprosy.

Case A presented one month after the emergence of hypopigmented macules on his thigh and upper arm. A biopsy showed mid-borderline leprosy. Six weeks later he returned with an increase in the number of lesions, some of which were slightly erythematous. A biopsy of the left radial cutaneous nerve showed a cellular infiltration containing a few epithelioid cells, foamy macrophages, lymphocytes, and Langhans' giant cells. Acid-fast bacilli were also seen. With the exception of the Langhans' giant cells, the histological picture was that of borderline lepromatous leprosy (The Figure).

Case B was seen four months after the

appearance of multiple hypopigmented lesions with poorly defined edges. The lesions had rapidly increased in number; some were marginally elevated but all had near normal sensation. Histopathology showed border-



THE FIGURE. Langhans' giant cell in an otherwise borderline lepromatous histological field from Case A.

line lepromatous to subpolar lepromatous leprosy with acid-fast bacilli. Langhans' giant cells were also present.

Case C was a patient who had been seen three times over a period of ten months. On her first presentation, she had typical hypopigmented anesthetic lesions of borderline tuberculoid leprosy. She was seen again four months later. During this period she had not taken her treatment, and the lesions were more inflamed and obvious nerve involvement was present. A biopsy showed borderline tuberculoid leprosy in reversal reaction. She was subsequently seen six months later. The disease had progressed and the lesions, which were more pleomorphic, were clinically borderline lepromatous. A biopsy confirmed this diagnosis but, in addition to the expected histological appearance, Langhans' giant cells were also seen.

The histopathology and the history in these three patients were quite similar, and all had borderline lepromatous or subpolar lepromatous leprosy. In addition, all had rapidly downgraded. Since these observations, we have seen two other patients with

similar histopathology who were also considered as downgrading.

The presence of Langhans' giant cells in rapidly downgrading leprosy suggests that either these cells are capable of remarkable longevity or that the factors stimulating their formation remain present despite a diminution of cell-mediated immunity. Their persistence, together with the cellular types expected at the lepromatous end of the spectrum, may be a useful histopathological sign of rapidly downgrading leprosy.

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REFERENCE

1. RIDLEY, D. S. and RADIA, K. B. The histological course of reactions in borderline leprosy and their outcome. *Int. J. Lepr.* **49** (1981) 383–392.