CORRESPONDENCE

This department is for the publication of informal communications that are of interest because they are informative and stimulating, and for the discussion of controversial matters. The mandate of this JOURNAL is to disseminate information relating to leprosy in particular and also other mycobacterial diseases. Dissident comment or interpretation on published research is of course valid, but personality attacks on individuals would seem unnecessary. Political comments, valid or not, also are unwelcome. They might result in interference with the distribution of the JOURNAL and thus interfere with its prime purpose.

Epidermal Langerhans' Cells in Subtypes of Leprosy

TO THE EDITOR:

The role of Langerhans' cells (LC) in antigen presentation has been well recognized in the pathogenesis of contact dermatitis ([3]). However little is known about their involvement in infectious disorders. We have studied 28 normal healthy individuals and 117 patients with different types of leprosy: 17 tuberculoid (TT), 30 borderline tuberculoid (BT), 15 borderline lepromatous (BL), and 55 lepromatous (LL). A skin biopsy was taken from the lesions; half of the tissue was processed for routine histological examination and the remaining tissue was processed to demonstrate LC ([4]). It was interesting to note that LC counts in TT patients (856 ± 154.75 LC/mm^2) were near normal (927.43 ± 103.87 LC/mm^2); whereas a gradual decline in the LC count was observed from the BT to the LL end of the leprosy spectrum (BT = 717.79 ± 188.0 LC/mm^2, BL = 490.27 ± 106.61 LC/mm^2, LL = 465.30 ± 234.0 LC/mm^2). Morphological alterations in LC, mainly in the form of increased granularity and at times lack of dendritic process, were observed only in some LL cases. In some of the BL patients at the time of downgrading, we observed large LC, suggesting that some kind of compensatory phenomenon might be going on. These findings need confirmation with electron microscopic studies.

The low counts of LC in TT and BT cases reported by Liu, *et al.* ([1]) are contrary to our observations. The possibility of defective epidermal separation could be responsible for such findings. We have also encountered similar situations in experiments where the dermoepidermal separation was not smooth, but on repeating the procedure in the same patient we found a higher count.

In our earlier communication ([2]) we tried to postulate a hypothesis about the involvement of these immunocompetent epidermal Langerhans' cells in the pathogenesis of leprosy. It is based on the observations of Ptak, *et al.* ([3]) who demonstrated that if trinitrophenylated substrate (TNP) is introduced, either by skin painting or given intravenously after conjugating it with epidermal extracts, it generates contact hypersensitivity. However, when TNP conjugated to peritoneal exudate cells was given through intravenous route, bypassing LC, it resulted in unresponsiveness for contact sensitivity since it favors activation of splenic suppressor cells. If such a phenomenon also occurs in leprosy, then it can explain the polar concept of leprosy.

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Response to Letter of Dr. Mathur, *et al.*

To the Editor:

We are much pleased to learn that Dr. Mathur, *et al.* had different viewpoints and comments regarding our paper, "Preliminary Observation on Langerhans' Cells" ([1]). After our paper was published in September of 1982, we read some new articles relevant to that topic. Dr. Van Voorhis, *et al.* ([3]) studied 8 of 21 patients with leprosy (including 10 lepromatous cases, 5 borderline, and 6 tuberculoid) and found increased numbers of OKT6-positive cells in clusters in the epidermis just above the dermal infiltrates. On the other hand, the results in an earlier paper by Dr. Mathur, *et al.* ([2]) were contrary to our preliminary observation.

From the Letter to the Editor we are happy to learn that Dr. Mathur, *et al.* have done a lot of work on Langerhans' cells in leprosy, which will be very helpful to our further research. Recently we observed Langerhans' cells in seven cases of TT and BT using OKT6. The results were generally similar to that of our previous work, but some results were similar to that of Dr. Van Voorhis. The paper on this experiment will be submitted for publication to the Journal in the near future. Since the number of Langerhans' cells varies between 460–1000 per mm^2 of epidermis in man and there are regional variations in their distribution, the use of an autogeneous control with the epidermis from the same individual and from the same site must be an important factor in the correctness of experiments, and the results obtained using this method would be comparable. However, the common idea that Langerhans' cells are involved in the pathogenesis of leprosy is shared with Dr. Mathur and us.

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Fluorescence Microscopy of the Fluorescent Leprosy Antibody Absorption Test (FLA-ABS)

To the Editor:

The fluorescent leprosy antibody absorption test (FLA-ABS) for the detection of infection with *Mycobacterium leprae* by immunofluorescence microscopy has been originally described by Abe and coworkers ([1]). Several important factors that may influence the results and consequently the