INTERNATIONAL JOURNAL OF LEPROSY Volume 61, Number 1
Printed in the U.S.A.

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.

On Reflections on the Elimination of Leprosy

TO THE EDITOR:

The editorial in the JOURNAL of March 1992, ([1]) entitled "Reflections on the Elimination of Leprosy" by its author, is an adaptation of a paper presented by him at the international meeting on the epidemiology of leprosy in relation to control in Jakarta, Indonesia, 17–21 June 1991, organized jointly by the World Health Organization and the Sasakawa Memorial Health Fund. Epidemiologists with program background at the meeting had expressed their reservations on some of the views expressed, perhaps without convincing the author. The proceedings of the meeting, to be published shortly, will reveal the views of some of the participants on the presentation.

Please find below some comments especially on the elimination goal covered in the editorial which was added to the paper subsequent to the presentation at the Jakarta meeting.

1. The global leprosy MDT program has demonstrated its strength and flexibility during the last decade of its implementation. Criteria for the diagnosis and classification of the disease for MDT purposes have been tested and adapted from time to time based on the experiences and feedback from endemic countries implementing the MDT program, and additional budgetary resources have also been generated to meet the increased costs of MDT. Coordination between national governments and nongovernmental organizations (NGOs) and between international and national NGOs has been strengthened to avoid duplication of effort, to ensure formulation of accepted strategies, and for effective implementation.

2. Leprosy elimination expressed as prevalence in the World Health Assembly (WHA) Resolution of May 1991 is relevant and appropriate during the first 5 to 6 years after MDT commencement, which is based on the experience in countries/areas under MDT implementation. Prevalence is likely to approximate incidence during the next 4 to 5 years of MDT. Subsequently, prevalence is expected to be lower than annual incidence and, hence, the former would be a more appropriate measurement of disease frequency.

3. Leprosy elimination resolution has provided a useful target for member countries and states/divisions within them to develop suitable plans of action. A spirit of competition has been generated between member countries/states/divisions for achieving the elimination goal. The resolution also stimulated leprosy-low endemic countries/states/divisions to achieve the elimination goal. The resolution also stimulated the leprosy-low endemic countries/states/division with prevalences higher than the elimination target to launch active programs.

4. The caution and reservations expressed in the editorial remind one of a similar experience during the 1970s while implementing the strategies of global smallpox eradication to translate a WHA resolution on the subject. The caution and reservations have proved unfounded and global smallpox eradication, as envisaged, has been

achieved. Despite several important differences in the epidemiology and control strategies between smallpox and leprosy, the sound and dynamic leadership, effective monitoring, periodic feedback, political will, administrative support, flexibility in approaches, and the generation of additional resources that contributed to the success of the global smallpox eradication are fortunately available in abundant measure for leprosy control as well. The comments/suggestions in this editorial will strengthen program development and implementation during the next 8 years. Broad strategies have to be adapted to suit the local situations by the member countries, as was the case with global smallpox eradication.

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Suppression of Human Monocyte Cytokine Release by Phenolic Glycolipid-I of *Mycobacterium leprae*

TO THE EDITOR:

It remains unclear why the vast majority of people exposed to *Mycobacterium leprae* develop no clinical disease and why only a minority who do develop clinical disease become immunologically unresponsive to antigens of the organisms. The presence of large amounts of phenolic glycolipid-I (PGL-I), the unique antigen of *M. leprae* ([4]) in tissues infected with *M. leprae* ([3]) may be a factor associated with the specific immunologic unresponsiveness seen in lepromatous leprosy patients. PGL-I is capable of inducing suppression of mitogenic responses of leprosy patients' lymphocytes *in vitro* ([5, 6]), although it was not established whether it acted through T lymphocytes. The role PGL-I may play in modulating monocyte/macrophage function has not been fully explored. It has been suggested that the phthiocerol-containing lipids of *M. leprae* play a role as protectors of resident *M. leprae* within phagosomes of the phagocytic cells ([1, 7]). To further study monocyte function, we have measured monocyte activation by cytokine release in response to lipopolysaccharide (LPS) in the presence or absence of PGL-I from *M. leprae.*

Peripheral blood mononuclear cells (PBMC) from healthy individuals were prepared with Ficoll-Hypaque gradient centrifugation, washed, and resuspended in RPMI 1640 medium supplemented with 100 units of penicillin/ml, 100 μg of streptomycin/ml, 5% heat-inactivated AB human serum, and 20 mM HEPES. The cells (3.0×10^6 in 1.5 ml/well) were incubated in a plastic petri dish (30 mm in diameter) for 2 hr at 37°C in a humidified atmosphere of 5% CO_2, after which nonadherent cells were removed by washing three times with medium. The adherent cells were subsequently detached with a scraper, washed twice and adjusted to 2×10^6 cells/ml after counting in a Neubauer chamber. Cultures were set up in triplicate in the presence of medium only (unstimulated cultures) or in the presence or absence of PGL-I (PGL-I was kindly supplied by Dr. M. J. Colston, National Institute for Medical Research, London, England) and LPS (*Escherichia coli* 026.B6, Sigma; stimulated cultures). After incubation for 24 hr, the culture medium was aspirated and centrifuged at $1000 \times g \times 10$ min, the supernatants were filtered on a 0.22-μm millipore filter, and cytokine concentrations were determined. TNF-alpha, interleukin (IL)-1 and IL-6 concentration in the PBMC supernatants were determined by using solid-phase ELISA kits (Quantikine, R & D Systems).

Since PGL-I is insoluble in aqueous medium it was presented to PBMC in the liposomal form ([6]). Over a concentration