BOOK REVIEWS

Annual Report of the Director General 1985–86, Indian Council of Medical Research. New Delhi: ICMR Offset Press, 1987, softbound, 130 pp.

[The following is that portion of the report dealing with leprosy.—RCH]

Leprosy research is being carried out at the Council's Central JALMA Institute for Leprosy (CJIL) at Agra and other institutes/centers in the country at Madras, Chingleput, etc.

Chemotherapy

During the year under report, the CJIL has conducted trials on the combination of rifampin, clofazimine and dapsone following WHO and other schedules. The trials have been conducted on multibacillary as well as paucibacillary cases of leprosy. The results indicate that pyrazinamide helps in reducing the incidence of persister organisms in treated leprosy patients.

A study on drug kinetics has indicated that use of such combinations does not adversely affect the blood levels of different drugs.

The *in vitro* monitoring of multidrug therapy is being done at the All India Institute of Medical Sciences (AIIMS), New Delhi. So far, 33 and 84 patients from Wardha and Baroda districts, respectively, have been studied before and after multidrug therapy and the results are under analysis. The status of secondary dapsone resistance in the Wardha area was found to be high. Even at 2½ years of multidrug therapy, 6 of 22 patients continue to harbor viable bacilli. The studies in Baroda district are still in progress.

Immunological studies

Studies in immunopathology have helped in recognizing the constituent elements of the granulomas in leprosy lesions and lepromin reaction. Detection of specific mycobacterial immune complexes by ELISA has been standardized, and this would also prove useful for evaluation of subclinical infection.

A reproducible and discriminatory visual enzyme-immunoassay has been developed for lepromatous leprosy at the AIIMS, New Delhi. The assay is based on the use of phenolic glycolipid-I (PGL-I) as antigen and locally produced mouse monoclonals against human IgM. The workability of human lepromatous-derived glycolipid and armadillo-derived glycolipid has been assessed. Plans have been made to employ this assay for screening larger numbers of patients from two regions of the country. Studies have also been initiated for development of a modified version of this assay for possible use in the field.

Taxonomical studies

The study of cell wall structure to help taxonomical identification of mycobacteria is being continued. An analysis of glycolipids has proved to be of help in strain differentiation. Further, it has been found that *Mycobacterium leprae* has two additional glycolipids apart from phenolic glycolipid. Another parameter for taxonomic characterization is to identify certain isoenzymes. LDH zymograms have been confirmed to be species specific. Further, esterases show strain variation. These taxonomical identification parameters would be of great help for future epidemiological studies to determine the source of infection.

Metabolic studies

The various lipid components of *M. leprae* obtained from human leprosy nodules have been identified. It has been shown that phosphatidylinositomannosides are important constituents of *M. leprae*. Using ^{14}C acetate as a precursor to label lipids of *M. leprae*, a drug sensitivity assay system has been standardized. Species-specific PGL-I was purified and fully characterized from human nodule-derived *M. leprae* for the first time. The PGL-I obtained from human lepromatous nodule and that of armadillo-derived nodule were found to be identical. It has also been shown conclusively that lipids of *M. leprae* prevent recognition of *M. leprae* as an antigen by the antigen-presenting

cells of leprosy patients. But the same cells from these patients are able to recognize delipidified cell walls that primarily contain proteins as antigens and initiate *in vitro* lymphocyte proliferation of leukocytes from leprosy patients. Thus, the role of lipids as immunomodulators and proteins of *M. leprae* as potential immunostimulators has been indicated.

Evaluation of vaccines

Three candidate antileprosy vaccines, i.e., ICRC, *Mycobacterium* "w" and killed *M. leprae* (armadillo), are being considered for preclinical and clinical trials in India. Phase I and II trials have been completed on the ICRC vaccine, and protocols are being finalized for Phase III trials. Preclinical toxicological study has been completed on the *Mycobacterium* "w" vaccine, and Phase II trials are yet to be initiated. The killed *M. leprae* vaccine, on the other hand, is being subjected to toxicity studies in animals before it is approved for clinical trials.

Manual of the National Leprosy Tuberculosis Programme for the Clinical Officer Tuberculosis and Leprosy Control. Nairobi: Ministry of Health of Kenya, 1987, softbound, 150 pp.

This is a new manual for the National Leprosy and Tuberculosis Control Programme (NTLP), Ministry of Health of Kenya. The NLTP, initiated in 1980, has now reached the stage where new and modern types of chemotherapy are implemented: multiple drug therapy (MDT) for leprosy patients and short-course chemotherapy for tuberculosis patients in the nomadic areas. These new methods of control for both diseases need clear instructions on procedures to be followed with regard to the chemotherapy itself as well as to the proper recording and reporting of patients.

The manual also incorporates the procedures for the control of tuberculosis with standard treatment as laid down in the medical department circular "Control of Tuberculosis" published by this Ministry in November, 1973.

The new manual provides these instructions to the key personnel of the NLTP, the clinical officers tuberculosis leprosy control (COTULEPS). It is useful as well for medical officers, either supervising or directly involved in the control of both diseases at district level.

The manual not only outlines the procedures for a standardized approach to leprosy and tuberculosis control country wide, but also stresses the need for integrating the leprosy/tuberculosis control activities into the general health services. It is the responsibility of the COTULEP to involve the general health workers at the peripheral health unit level and the community itself in the program activities by regular and frequent visits all over the district. It is only with the involvement of the primary health care staff and the community that the NLTP can be successful.

We trust, therefore, that this manual will prove to be an important tool for our staff in achieving the ultimate goal of the NLTP: the eradication of leprosy and tuberculosis in Kenya.—From the Foreword by Prof. T. Ogada

McDougall, A. C. and Yawalkar, S. J. *Leprosy; Basic Information and Management.* Basle: CIBA-GEIGY Limited, 1987, 40 pp., softbound, illustrated.

As stated in the authors' Preface, "The purpose of this booklet is to provide basic general information on leprosy for nonmedical people, including community leaders, social workers, teachers, students and journalists. It could well be a first introduction to leprosy for paramedical people, e.g., health workers, supervisors and nurses, intending to work in this field and help to stimulate the interest of medical students in this disease. It may also be useful for some patients and their relatives.

"We trust that it will help to spread correct information on this subject and encourage people to understand and accept leprosy like any other disease. We also hope that with this knowledge many more people suffering from this disease will come forward for treatment."

As would be expected from these distinguished authors, this 40-page booklet masterfully covers the essentials of leprosy in easily understood language. The color illus-

trations are both abundant and of uniformly superb quality, demonstrating a wide variety of manifestations of the disease. A separate chapter is devoted to education of the patient, and another provides an interesting collection of "important facts about leprosy." The authors have admirably achieved their goal of producing an attractive, easily comprehensible booklet containing the essential, correct information about leprosy. We join them in their hope that this information will be spread and will result in more leprosy sufferers coming forward for treatment.—RCH

Proceedings of the Indo-UK Symposium on Leprosy, Agra, April 7–10, 1986. Katoch, V. M., ed. Agra: Central JALMA Institute for Leprosy (ICMR), 1987, hardbound, 368 pp.

Collaborative studies between scientists in the United Kingdom and those in India, particularly at the Central JALMA Institute for Leprosy in Agra, have been underway for nearly a decade with the help of the Overseas Development Authority of the U.K. and the British Council as well as others. The Indian Council of Medical Research (ICMR) took the initiative to organize a bilateral Indo–U.K. Symposium on Leprosy to provide an opportunity for the mutual exchange of knowledge and ideas between scientists of the two countries. The Symposium was held 7–10 April 1986 at Agra, and the proceedings of the Symposium are now being published.

A total of 37 papers are included in the Proceedings, all dealing with the latest advances in leprosy research from both the U.K. and India. Particular emphasis was given to immunology, microbiology, molecular biology, and *in vitro* drug-susceptibility testing with *Mycobacterium leprae.* The papers are most impressive, as would be expected from the eminent individuals who participated in the Symposium.—RCH

Renzo, S. and Panciera, C. *Early Surgery for Hansen's Neuritis; an Illustrated Manual.* Bologna: Associazione Italiana Amici de Raoul Follereau, 1987.

It appears that this publication is directed primarily to physicians assigned in the field to care for patients with Hansen's disease. The presentation is clear and the comments are logical. Their proposal is applicable as a prophylactic measure to a short period of motor nerve involvement prior to the development of deformity. The authors refer to studies upon which they base their remarks, but do not indicate what the studies are. A few comments in this regard would have been enlightening.

Still I do appreciate the period of onset of neuritis during which edema is the dominant finding, and if surgery is performed to relieve the edema, deformity certainly would be obviated. It is unfortunate however that this period probably does not exceed 24 or so hours, therefore determining the optimum time for release of edematous compression becomes critical. Also, once fibrosis has become established the prognosis is decreased.

Nevertheless, I feel that the "minimal-atraumatic" method of external neurolyses could be instituted on a trial basis at a few institutions where control studies can be implemented with indications for timing and performing the procedure. Also, the assessment of the value of this method should be determined by the same subjective and objective methods. Once the criteria for performing the procedure are established and it is determined to be of prophylactic value, the procedure may then be promoted with the thought of greater application for the involvement of physicians in the field.—C. D. Enna, M.D.

Thangaraj, R. H. and Yawalkar, S. J. *Leprosy for Medical Practitioners and Paramedical Workers.* Basle: CIBA-GEIGY Limited, 1987, softbound, 2nd revised edition, 100 pp.

This authoritative monograph has been revised and brought out as a second edition, replacing the already excellent first edition of 1986. Again the booklet is intended to be of practical value to medical practitioners, medical students, and paramedical workers. As stated by the authors in their Preface, it is hoped that it will stimulate their interest in the subject and lead to their cooperation which is essential to leprosy control.

The booklet is a remarkable summary of the whole of leprosy. The authors are again to be congratulated, together with CIBA-GEIGY Limited, in having produced an extremely attractive as well as useful guide to leprosy for nonspecialists.

Copies are available, free of charge, from Prof. S. J. Yawalkar, Medical Department, Central Clinical Research and Development, CIBA-GEIGY Limited, CH-4002 Basle, Switzerland.—RCH