

## EDITORIAL

### Anti-leprosy therapy today

Among the abiding impressions of the outstanding VII International Congress of Leprology held in Tokyo in November, 1958, perhaps the most powerful and stimulating was that of the extraordinary richness of the reports and suggestions on new drugs suitable for the treatment of leprosy.

There was no attack on the standard treatment by the sulphones. On the contrary, it was made abundantly clear that this group of chemical compounds had revolutionised the treatment of leprosy, and could even be used as a definite method of leprosy control when used in mass campaigns over a wide area. The surge of activity and interest in new drugs springs partly from the *success* of the sulphones. The old moderate estimate of the incidence of leprosy has had to be revised repeatedly under the impact of the leprosy patients who come forward to receive a good treatment, and repeated surveys have added to our knowledge of incidence. In 1955, the estimate of world incidence of leprosy was 10,000,000 cases. Now, in 1959, the figure of 20,000,000 is being mentioned for the first time. Against this background most workers find the trusty sulphones too slow in action, and begin to search for some other drug which will do the job quickly, either in its own right, or combined with the sulphones.

Here is a list of a few of the *new anti-leprosy drugs* with short comments:

1. Diphenylthiourea derivatives, exemplified by Ciba 1906 (also called DPT by T. F. Davey) are of great interest. DPT has been under trial in human leprosy for almost four years, and is emerging as a new basic drug for leprosy.
2. Diethyl dithiol isophthalate or "Etisul" (to which Davey has also given the short name of ETIP) has been under trial for about ten months. It shows in some cases an especially rapid action in reducing the bacterial index. At about the fourth month drug resistance develops. It is given by injection. Davey thinks its combination with DDS or with DPT will result in material shortening of the time taken for total treatment.
3. Sodium ethyl thiosulphate or ET has been reported on by E. del Pianto. This is a related drug to ETIP, but can be given by mouth for a much longer period. Del Pianto found it well tolerated, effective, and safer and quicker than DDS.
4. The antibiotics viomycin, cycloserine, and kanamycin were reported on by Baccareda-Boy, Rollier, and Yanigasawa and others. They all seem to be effective in human leprosy, but perhaps with much the same value as streptomycin in leprosy, maybe rather more effective.

5. Diaminodiphenyl sulphoxide or DDSO was described by Davey and others as having about the same value as DDS, with advantages in special cases.
6. Buu-Hoi reported on the effects of the isonicotinylhydrazones and found an effectiveness in leprosy lower than DDSO. Hirano found that similar hydrazones were effective in murine leprosy and in tuberculosis of guinea pigs, in particular isonicotinyl-3, 4-diethoxybenzal hydrazone. This is less toxic, has a striking effect on murine leprosy, and may be of value in the treatment of human leprosy.
7. Miyazaki described the value of photo-sensitizing dyestuffs as a secondary treatment of leprosy because of their action to stimulate all body cells, and hence to strengthen resistance.

The above are only a few of the flowers that bloom in the therapeutic garden. The first and second mentioned provide an obvious case for trial in combination, and the third also should be brought into combined research with the first and second.

The *treatment of lepra reactions* is ever a concern to those who deal with leprosy patients. Such reactions have increased greatly since the sulphones were introduced. There are very many anti-allergic and purely empirical medicines in use against them. Most workers now agree on the value of the corticosteroids, and some suggest nivaquin or camoquin as a useful addition to the list.

For some time *Antigen Marianum* has been tried in the treatment of leprosy, but the evidence so far does not suggest that it has any real place. The same applies to the drug, pyrazinamide.

In any description of the modern therapy of leprosy, the advance in methods for surgical repair of deformities (Brand, Ikeda and others), along with thinking out of practical methods of prevention, must be hailed as one of its best features.

Finally, help in therapy of leprosy may well come from the side of pathology and bacteriology. S.W.A. Kuper at the Congress described a histological finding with injections of BCG, in lepromatous patients, of a distinct trend towards the lymphocytic type of cellular reaction, suggesting that a systemic immunological response had been elicited. A clinical trial under controlled conditions is taking place this year in Thailand, India, and Africa on lepromatous patients, to ascertain whether BCG injections at intervals do in fact raise the resistance of patients on the usual basic therapy, as compared with those not given BCG. K. R. Chatterjee has demonstrated successful transmission of *M. leprae* to a laboratory animal, a laboratory-bred strain of hybrid black mice. Various workers this year will seek to confirm this finding, and its establishment would provide us with a most valuable tool in therapeutic research, especially in the screening of new drugs for leprosy.

### **A New Book on Leprosy**

We hail the new book, "Leprosy in Theory and Practice", edited by R. G. Cochrane with a foreword by Sir George McRobert, and published by Messrs. Wright of Bristol, with 407 pages and 184 figures. This book represents a landmark for all leprologists and those interested in leprosy relief, and likewise for scientists in other disciplines who have found that leprosy impinges on their own work. Dr. Cochrane has adopted the plan of a symposium by 24 different contributors. He himself is responsible for 11 chapters and two appendices. The other contributors deal with various sections of the subject and of particular interest is the space given to radiographic appearances of the bones in leprosy. A careful study of deformity in leprosy and its prevention by physiotherapy, and recent investigations into sensory and histological changes in leprosy are included. The general effect of this stimulating book will be that a great deal of hard thinking will go on among those who read it, and equally beneficial arguments whenever the readers meet together. The new orientation of leprosy as part of general science, and as part of the world problem of humanity, is underlined by this work. The book is undoubtedly of the greatest value and should be in the hands of every worker.

### **References**

More information about the new drugs mentioned will be found in Therapy section of Report of Proceedings of VII International Congress of Leprology, *Leprosy Review*, 30, 1: Jan. 1959, pp. 17-29 also: DAVEY, T. F. and HOGERZEIL, L. M. *Ibid.* pp. 61-72.