

REVIEWS

Hind Kusht Nivaran Sangh. Annual report for 1959. New Delhi 2, Red Cross Road.

As always, this report begins with a comprehensive survey by Rajkumari Amrit Kaur, the chairman, which is of interest to anyone who wishes to know what is transpiring in India. It begins, however, with a broad statement of what WHO is doing in leprosy.

Of organizations working especially within the country, the work of the Mission to Lepers is reaching out to touch on outpatient and village work. It also participates in the training of workers. Some 30% of its expenditures in India are met by government grants.

The Gandhi Memorial Leprosy Foundation, under Dr. R. V. Wardekar, is making progress in field research, done in association with their control schemes in 11 limited areas. It is being increasingly consulted by other entities, and the number of affiliated private organizations has increased to 32.

The leprosy control scheme of the Government of India is being continued in the second five-year plan, and now has 99 centers—4 of them listed as treatment and study centers. There is also a scheme for training medical officers in leprosy, with its center in Nagpur, which is expected to train 60 medical officers a year. The amount of Rs 2,895,116 was involved under the scheme, and grants-in-aid to voluntary institutions amounted to Rs 740,425.

The Belgian Leprosy Center, spoken of "as perhaps the most gigantic single effort in mass treatment" in the world, was to be turned over to the government in June 1960, when Dr. Hemerijkx would have finished his 5-year contract. It has been visited by a German team of doctors and nurses for training before starting work in a highly endemic area in the North Arcot District.

The Central Leprosy Teaching and Research Center, at Tirumani, has added a physiotherapist and a social welfare officer to its staff.

Therapeutic research has been continued with Ciba-1906, which was found to be about equal to DDS in effectiveness and a useful addition to the drug list; with Etisul, which had not been found of value to the time of the report [see *THE JOURNAL* **29** (1961) 34-45]; and with chloroquine for lepra reactions, found to be less effective with in-patients than potassium antimony tartrate, the routine treatment for that condition.

That was also found to be the case with outpatients treated at the Silver Jubilee Children's Clinic at Saidapet, except for the advantage—real under the circumstances—of oral administration. Also, DDS prophylaxis seemed, as yet, to have no value, judged by the frequency of development of lesions. In 41 followed-up cases of major tuberculoid leprosy without treatment, clinical deterioration (i.e., development of fresh lesions) had occurred in only 1 case, and none had developed the lepromatous form, illustrating the excellent prognosis without treatment.

Regarding research under the Indian Council of Medical Research, the study of the evolution of leprosy among contacts in Bombay has been continued. It has been estab-

lished that *ab initio* every individual is lepromin negative, and leprosy infection is the most potent factor responsible for lepromin positivity. Prophylactic treatment with DDS seemed useful, based on the bacteriologic findings and the development of progressive lesions. Cultivation work with cultures of ganglion tissues continued encouraging, as did inoculation work with special strains of mice.

At the Christian Medical College, Vellore, new operative techniques for deformities have been developed, and a program of physiotherapy.

Because of the favorable effects of a small-scale operation with BCG vaccination recently reported (5 cases in 5 years among 678 vaccinated, and 283 cases in 1,651 unvaccinated), it has been proposed that a comprehensive investigation be instituted.

The Sangh's work, and especially that of the organizing secretary (T. N. Jagadisan), is reviewed briefly. Included is the organization of a training course for physiotherapy technicians at Vellore. Plans are being worked out for extending the health education work.—H. W. W.

Sbornik Nauchnykh Rabot po Leprologii i Dermatologii. [Collected Scientific Papers on Leprology and Dermatology.] No. 14, 1960. Rostov-on-Don, Rostov Book Publishers, 238 pp.

This volume of this publication, like previous ones reviewed [see *THE JOURNAL* **28** (1960) 350 and 496 and **29** (1961) 261-262], contains articles on both leprosy and dermatology. There are 10 articles referring to leprosy, the brief French summaries of which (supplied by Professor Torsuev) are translated here.

TORSUEV, N. A. *Study of leprosy in Old China* (pp. 3-79).—This article is a review of the appearance and progress of leprosy in China, from a very remote epoch up to the time of the establishment in 1949 of the People's Republic of China. The second chapter deals with the questions of diagnosis and therapy, describing the methods of recognition and treatment of leprosy cases. In the third chapter are given statistical data and information on the geographic spread of the disease. The fourth chapter is a description of the antileprosy measures employed in the past in China.

KAUROV, I. A. *On the medicinal plants used in China in the treatment of leprosy* (pp. 80-131).—Having studied Chinese popular medicine during his sojourn in China, the author presents a detailed description of certain widely used remedies, and their composition, their recipes, and their therapeutic doses. [The author, presumably a botanist, gives descriptions of 70 species, from *Acanthopanax spinosum* to *Zingiber officinale* (including *Hydnocarpus anthelmintica* en route), and gives a 25-page tabulation the purpose of which is not evident to a nonreader of the language.]

MOSKALENKO, G. *Three cases of secondary anatoderma in leprosy patients* (pp. 132-136).—The author reports 3 cases of lepromatous leprosy regressing to cicatricial atrophies of the anatodermic type at the site of the old lepromas.

PAVLOV, N. *Interstitial substance of the retina in lepers* (pp. 137-142).—In the opinion of the author, the specific leprosy lesions of the retina in the form of "stearine spots" or "beaded spots" form in the perineural part or at the periphery of the *fond* of the eyes. Regarding the interstitial substance of the retina, it becomes denser, the neuroepithelial layer undergoes softening, and there is a moderate turgescence of the nuclear and ganglionar layer.

LOGUINOV, V. K. and SMOUROV, T. V. *Action of the sulfones in combination with certain antituberculosis remedies on the tuberculous lesions of the lungs in leprosy patients* (pp. 143-146).—The application of sulfone preparations in combination with Tibione, phtivaside and streptomycin in the treatment of pulmonary lesions in leprosy patients has given encouraging results. This combined treatment has resulted in a de-

crease of tuberculosis among the leprosy patients, and a more benign evolution of that infection.

IVANOVA, N. N. *On the ammonia content of the urine of leprosy patients* (pp. 147-151).—One hundred leprosy patients and 30 contacts were examined. It was found that in the lepromatous patients, especially those in the state of lepra reaction, the ammonia content in the 24-hour urine showed different variations, i.e., it might be either decreased or increased. These variations are probably related to the changes in the acid-base equilibrium. Diminution of ammonia is observed especially in advanced lepromatous cases, with bacilliferous lesions and with accelerated red-cell sedimentation.

IVANOVA, N. N. *Amino acids in the urine of leprosy patients* (pp. 152-160).—The amino-acid content in the urine was studied in 115 leprosy patients and in 35 healthy persons serving as controls. In the lepromatous patients, especially during lepra reaction, one often observes the elimination of cystine and amino acids of the leucine group, more rarely valine and phenyl-alanine. In about 50% of the cases, the urine contains unidentified compounds not found in healthy persons. Among the 115 patients, 108 showed an elevated amount of amino acids—from 1 to 15. The most pronounced quantitative and qualitative changes were detected during the state of lepra reaction. Clinical improvement is followed by a normalization of amino acid content of the urine.

KHARABADJAKOV, K. K. *On the methods of active prophylaxis of leprosy* (pp. 161-167).—After a brief review of the literature, the author describes a trial of BCG vaccination, according to the Arlindo de Assis technique, in 489 inhabitants of 2 villages in the Rostov-on-Don region.

GREBENNIKOV, P. S. *Leprosy control methods in the area of the leprosarium of Abinsk* (pp. 168-180).—The author describes the types of organization of the anti-leprosy campaign and the methods of prevention carried out in the area served by this leprosarium. He cites the different forms of registration of the patients and contacts.

LEONTIEV, E. V. and TORSUEVA, N. N. *On the use of cutaneous pharmacodynamic tests* (pp. 181-196).—The authors subjected a group of patients with different forms of dermatoses (including leprosy patients) to different pharmacodynamic tests. To perform these tests they used an ordinary needle, and also a triple needle, and they conclude that the latter procedure is the most effective. However, for the diagnostic tests it is preferable to use simultaneously an ordinary and a triple needle, because the latter sometimes causes slight erythema which is lacking when an ordinary needle is used.

Étude des Mutilations Lépreuses. By MICHEL LECHAT, with a preface by R. Chaussinand, Bruxelles: Editions Arscia S. A.; Paris: Masson et Cie, 1951. Pp. 276 (plus xxx of summaries); heavy paper covers.

This extensive monograph, submitted to the Catholic University of Louvaine for the advanced degree of Agrégé de l'Enseignement Supérieur, is now available in a commercial edition. It is the most thorough study of the bone changes responsible for the deformities and mutilations of leprosy that has been seen.

The text is divided into four chapters, each with several subdivisions: 1. Radiology of mutilations. 2. Evolution of the mutilations in patients treated by the sulfones. 3. Attempt at clinical interpretation. 4. Contribution to knowledge of the pathogenesis of mutilations. There is also an annex, Synthesis of observations of arteriography. There are seven-page summaries in English and Spanish translations, besides the original French. The bibliography contains 221 references which cover

a wide range of pertinent subjects. In the text there are 98 tables, and for illustrations 39 text-figures (line drawings), and 9 graphs. Assembled near the end are 85 reproductions of radiographs of excellent quality. Several unusual ones show the filling of the blood vessels of the foot before and after the administration of hydergine.

A condensation of the summary, published by the author in *Ann. Soc. belge Med. trop.* **40** (1960) 451-452, follows in translation.

The mutilations constitute today the most serious problem posed by leprosy. Modern therapies, particularly the slow-absorption sulfone preparations, make it possible beyond contradiction to treat most of the patients, to clear and cure them. But, either because the present treatments have no action against trophic disorders of the extremities, or because many of the patients seek treatment very late, there persists a considerable number with mutilations. To what radiologic pictures do these mutilations correspond? What is the mechanism of their production? What is their evolution in the patients treated with sulfones?

The study was carried out on patients hospitalized at the Yonda leprosarium at Coquilhatville, in the Congo: 421 x-ray pictures of the hands were made from 306 patients, and 599 pictures of the feet from 361 patients. The classical bone lesions of the hands are described and discussed, with numerous illustrations. A study of the pathogenesis is then taken up.

The roentgenographic pathology of the extremities in leprosy patients consists of four types of phenomena: direct involvement by the bacillary process, traumatism of the anesthetic members subjected to a neuromuscular disequilibrium, disorder of the circulatory dynamics, and superinfection.

The picture of the *gêodes* and of the enlargement of the nutritive foramina, as well as aspects of periostitis without preceding ulcers, are linked, if not to the lepromatous type of leprosy, at least to the bacillary antecedents. The persistence of the *gêodes* in patients long treated with sulfones and considered cured, has led us to suggest prolonged treatment of these cases, long after the disappearance of the dermatologic, clinical, or bacteriologic manifestations.

The position of the intermediate osteoarthritis which frequently persists in the feet at the metatarsophalangeal interspace, and its association with the loss of sensitivity and with hypertrophies of the nerve trunks, argue in favor of an important role of traumatism of the bony system subjected to a neuromuscular disequilibrium. Chronaxiometric measurements, however, indicate diffuse anomalies which it is not at present possible to standardize, and they indicate the interest there would be in continuing these researches.

The distal osteolyses are accompanied by significant changes of the peripheral vascularization, as evidence by cutaneous thermometry. Serial arteriography permits the observation that the lesions of the blood vessels clearly demarcate the mutilated area, and one may suspect that they perhaps precede the mutilations, which would explain their inevitable progression, although abated, despite the sulfone treatment, once they have occurred. In view of our present inability to restore the normal peripheral circulation in these patients, and then to institute an effective prophylaxis against these mutilations, these findings demonstrate the paramount necessity of the early detection of leprosy.

The seriousness of the diffuse and multifocal bone decay due to superinfection from underlying ulcers, demands of the health organization the possibility of hospitalizing these patients in institutions where they may benefit from rest and adequate care.