ABSTRACTS

Transmission of M. leprae to selected hybrid black mice and Syrian hamsters. **K. R. Chatterjee.** Bull. Calcutta Sch. of Trop. Med. **6,** 2: April, 1958, pp. 83–87.

Two varieties of animals were chosen for the transmission experiment: one was a new type, the hybrid black mouse bred in the institute, and the other was the Syrian hamster bred in the laboratory. The age at inoculation was 12–20 days or three to six weeks for black mice and hamsters respectively, and the inoculum consisted of human leprosy bacilli which had been made tissue-free by differential centrifugalisation and diluted in physiological saline to contain a known number of bacilli per ml. The dose was about 1,000 million bacilli for black mouse and 3,000 million for hamster. Six to eight months after inoculation the infection developed and went on to heavy and generalised infection in the black mice, transmissible by inoculation to mice and hamsters. Intradermal injection of a lepromin made from the transmitted bacilli gave very similar results to standard lepromin. The author thinks the success of this animal transmission is due to the use of an inoculum of bacilli freed from tissue elements and to the choice of a new animal, the hybrid black mouse.

Treatment of Leprosy by Cycloserine and Treatment of Lepra Reactions by SLF. Rapport Annuel (1957), Institut Pasteur du Viet-Nam, pp. 18–19.

Chambon reports on his observations of D-Cycloserine used in six cases of lepromatous leprosy and one reactional tuberculoid. It has a great degree of activity on the lesions and also on the bacillary counts, which become negative in three months in the nasal mucosa and about eight months in the skin. The dosage used was 15 days at 0.25 g., 15 days at 0.50 g., later 0.75 g. For prevention of reaction states the anti-inflammatory drugs were given from the beginning, namely phenylbutazone, SLF (phenylbutazone with INH), or hydrocortancyl. Chambon and Destombes think that Cycloserine is the most active antileprosy drug so far.

Previa Sobre Terapeutica da Lepra (*Preliminary note on treatment of leprosy*), **A. O. Gonzalez,** Revista da Conf. Med. Panamericana, **4,** 1957, p. 454.

Dr. Gonzalez reported on his experiences with a new treatment of leprosy based on a new theory. This theory has the following lines of reasoning: Iodine and its derivatives are particularly harmful to the leprosy patient; leprosy worsens during pregnancy in a female patient but improves after the birth and during lactation; there is a marked increase in endogenous iodine during pregnancy and a decrease after the birth when the milk secretion begins; non-

saturated fatty acids have a special ability to absorb iodine; an excessive intake of fatty acids predisposes to the development of parotitis; hydnocarpus oil is a fatty acid which held a place for many years as the best treatment for leprosy; one theory of its action is that it fixed iodine because it was a fatty acid and led to a lessening of iodine content of the blood, such as is seen in the lactation period of a female leprosy patient after pregnancy; some workers report the infrequency of coincident leprosy and hypothyroid colloid parotitis (Dr. R. Serpa says they never occur together) and in a region of Palmira where parotitis is common it is reported that for the last twenty years no leprosy has been seen in a parotitis case (records of the Cali dispensary).

Accordingly in the treatment of leprosy Dr. Gonzalez has been using the sulphones along with anti-thyroid agents such as thiouracil and propylthiouracil, in moderate doses in all cases. He found that the lesions regressed rapidly, that toxic phenomena ascribable to the sulphones were minimal, that lepra reactions were benign and less frequent. He thinks the idea is worth further trial and verification.

Experimental Transmission of Murine Leprosy to the Guinea-Pig by means of induced macrophage exudate and suppression of the Natural Defence Mechanism. **L. Kato,** Int. J. of L., **25** ,3, July-Sept. 1957, pp. 193–205.

By inducing a macrophage exudate in the peritoneal cavity of the guinea-pig before intraperitoneal injection of the infective homogenized suspension, and the simultaneous suppression of natural resistance with the antihistaminic mepyramine maleate or a complement-inhibiting compound, much granulomata developed after eight weeks in the peritoneal cavities. From these granulomata, the infection was transmitted successfully to sub-generations of guinea-pigs and could be transmitted back again into the rat, signifying that *M. lepraemurium* retained its infectiousness in the resistant host. The histology of the rat and guinea-pig granuloma was essentially the same, and the tissue gives a strong positive reaction to the tetrazolium test. Hanks considers extracellular inhibitors to be a barrier to experimental transmission and the above experimental method permits the parasite to escape this action.

The Isopathic Reaction in Leprosy. **E. Waaler,** Int. J. of L., **25,** 3, July–Sept. 1957, pp. 207–212.

This author describes an experimental approach to the isopathic reaction as described by Sagher. Editorial reference by Wade to this phenomenon is given in the same issue. (Int. J. of L., **25,** 3, July–Sept. 1957, pp. 263–268.) Waaler made histological study of the reactions to tuberculin in four leprosy patients, and found that

from two of these patients, the specimens showed the typical isopathic phenomenon. The picture was like that of a leproma, with nodules or clumps of foamy cells. In the other two patients, the tissue reaction was not characteristic. The author thinks that the phenomenon is caused by an acquired reactivity of the skin in leprosy. He tried to induce the reaction in his own skin by adding a suspension of skin from one of the leprosy patients to tuberculin and injecting the mixture intradermally. The result did not show passive transfer of the isopathic reactivity; therefore it appears to depend upon the living cells. Wade in his editorial on the subject takes up many interesting lines of thought which should be considered carefully. He indicates finally that the evidence that there is a fundamental alteration in the tissue activity in lepromatous leprosy which impedes the lepromatous change should be explored as a problem for basic research in cell histology. He reports that Dr. R. Kooij has suggested that workers who take up the study of this phenomenon should co-ordinate the excitants, the time intervals after injection, and the same histological methods and criteria.

The Chemotherapy of Leprosy, **S. R. M. Bushby,** Pharmacological Reviews, **10,** No. 1, March 1958, pp. 1–41.

Dr. Bushby gives a systematic account of the treatment of leprosy by chemotherapy to the present era of the sulphones and cortisone, and discusses also combined therapy, controlled clinical trials, BCG, and the propagation of *M. leprae.* He recognizes the profound effect that chemotherapy has brought to the prognosis in leprosy and points out, as the unsatisfactory aspect of the present treatment, the length of time needed to produce a clinical cure and the final eradication of the bacilli of the disease. A lepromatous patient has a 40% chance of arrest of his disease after eight years of continuous sulphone treatment (Wolcott 1956). Dr. Bushby goes on to discuss the provocative remarks of Ross Innes (1955) which requested a search for drugs of greater speed and efficacy and the replies from Lowe and Wade. Dr. Bushby's paper contains much else of great interest and importance and its careful study is recommended.

Le Mycobacterium Marianum. Etude microbiologique, pathogénétique et immunologique. (*Study of the M. marianum.*) **G. Penso, R. Noel, M. Blanc, Soeur Marie-Suzanne.** Accademia Nazionale Dei XL, Rome 1957.

This report contains 76 pages with 66 illustrations, 36 of which are in colour. All close studies of mycobacteria are of importance to leprosy workers. In 1953, Penso suggested the name "Mycobacterium marianum" in honour of Sister Marie-Suzanne for the mycobacterium which she had isolated in 1951 from a case of

human lepromatous leprosy. The authors have made a careful study in the microbiology, pathogenesis and immunology of *M. marianum.* They concluded that it is different from other known mycobacteria and definitely belongs to them. Some authors have suggested that it should be placed in the ill-defined group of paratuberculous bacilli, but the present authors find this term too vague to be useful. The species *M. marianum* is not a saprophyte because it was isolated from human leprosy tissue. It is pathogenic, for on inoculation into susceptible animals, it caused lesions with a definite pathology and histology. Furthermore, it has been shown to have a metabolism similar to other mycobacteria which are definitely pathogenic. The connection between *M. marianum* and leprosy is shown by the fact of its isolation from deep tissues of a human leprosy case; the authors do not think that there was any chance of contamination. It is not clear whether *M. marianum* is part of the cause of leprosy or whether it is a variant and bye-product. The cultivability of this bacillus does seem to set it apart from *M. leprae*; the lesions which it causes in rats on inoculation appear to be true rat leprosy lesions. The fact that it causes local and general reactions on inoculation into human subjects indicates that it must have some meaning in the pathogenesis of leprosy and in its immunology. Many trials are in progress to test the early reports of the preventive and curative action of the antigens of *M. marianum*, when given by inoculation as a vaccine.

El Camoquin en el Brote Agudo de Lepra (*Camoquin in acute lepra reaction*). **D. A. Casals,** Revista de Sifil. Leprol. y Dermatol., Cuba, 13th Year, No. 1, Jan. to June 1957, pp. 19–21.

They previously reported their experience with two cases on this drug, and now report ten more cases. Among the many methods, they thought cortisone was the best, but the intense and resistant relapses, after cortisone was suspended, made them think again. In 1955, González Prendes, Valhuerdi and Cruz reported favourably on atebrine. Other authors have supported this and point out that it is well tolerated, is most effective in the big febrile reactions, favours the healing of the reactive lesions proper, succeeds in cases which have resisted other drugs, has the advantage of administration by mouth. The present authors used camoquin and obtained the same encouraging results. They gave two tablets of 0.20 g. daily for five to seven days. They point out its beneficial action also in lupus erythematosus and other dermatoses and suggest it has a non-specific action on tissues. The generally capricious behaviour of acute lepra reaction impedes absolute certainty about the efficacy of any agent.