

ABSTRACTS

SAGHER, F., LIBAN, E. and KOSCARD, E.

Specific Tissue Alteration in Leprous Skin. VI. "Isopathic Phenomenon" following B.C.G. vaccination in leprosy patients. A.M.A. Archives of Dermatology and Syphilology.

Twenty-one patients with lepromatous leprosy who were receiving chemotherapy were inoculated intradermally in the left deltoid region with 0.1 mil. B.C.G. vaccine. 13 of these patients had active lesions and 8 inactive (in 4 no bacilli were found). 12 were tuberculin negative before vaccination but became positive afterwards. All were lepromin negative, but 6 gave positive Fernandez reactions, and 5 positive Mitsuda reactions after 2-3 months. All however, became lepromin negative again after 1-2 years.

Tuberculin negative patients developed clinically a lesion at the vaccination site, similar to healthy persons without tuberculosis. Tuberculin positive cases showed an accelerated reaction (Koch phenomenon) and 3 had lepra reactions.

Biopsy specimens taken from the site of inoculation at intervals of from 4 days—10 months later, however, showed histological reactions characteristic of lepromatous leprosy, whereas similar specimens taken from controls showed reactions characteristic of tuberculosis. This reaction in leprosy the authors call an "isopathic phenomenon". (A similar isopathic phenomenon is only found in one other disease, i.e. sarcoidosis.) In 17 specimens a 3-plus reaction showed masses of granuloma composed chiefly of foam cells. In three milder reactions only a few foam cells were seen and were described as prelepromatous. Clinically the reaction is tuberculous in that the tuberculin reaction becomes positive, but histologically it is lepromatous. The writers ask "Does B.C.G. produce tuberculosis in leprosy patients, or merely activate leprosy at the site of the lesion?" They suggest that this isopathic phenomenon may be useful in detecting early doubtful cases of leprosy, and of testing the effectiveness of chemotherapy.

The writers state that in an earlier series of experiments the injection of tuberculin, leishmanin, milk and peptone also elicited a lepromatous or prelepromatous reaction in leprosy cases. This rather suggests that any foreign proteins reactivate leprosy locally.

It is well known that vaccination against smallpox and anti-typhoid inoculations are apt to precipitate lepra reactions in patients with leprosy.

The reviewer regrets that no cases of tuberculoid leprosy were

included in the series to show the histological reaction to B.C.G. in this type of leprosy.

G. O. TEICHMANN.

RIDLEY, D. S.

The Significance of Antibody in the Pathogenesis of Leprosy. Transactions of the Royal Society of Tropical Medicine and Hygiene, **48**, No. 5, 1954, pp. 400-405.

This paper is concerned with "the immunological pattern which appears in established infections" (with leprosy). The author studied the bacteriological status, the Wassermann reaction, complement fixation with lepromin, the lepromin reaction, the tuberculin reaction, and complement fixation with tuberculin, in 24 patients in England, nearly all being lepromatous cases. With lepromin, but not with tuberculin, complement fixation was obtained in most of the lepromatous sera, while the lepromin test was negative in these cases. In the two tuberculoid cases, the lepromin test was positive, and the complement fixation test was negative. In these two cases he gave intradermal injections of (a) lepromin, (b) lepromin mixed with normal serum and incubated for 24 hours, (c) and (d) lepromin mixed with lepromatous serum and incubated for 24 hours. He found the lepromatous serum reduced or removed the reaction (48 hrs.) to lepromin.

He concludes. "The experiments reported in this paper, which need confirming and extending, would seem to indicate that in many lepromatous sera there is present an antibody which reacts with lepromin to fix complement; and that some lepromatous sera are capable of neutralizing lepromin so that a mixture of the two does not elicit a response in the skin in tuberculoid cases."

He discusses the possible bearing of these ideas on the clinical and other manifestations of leprosy.

(This paper is discussed in an editorial.)

FLOCH, H., and SUREAU, P.

Resultats d'essais de traitement de la lepre par l'I.N.H. (Results of Experimental Treatment of Leprosy with Isoniazid.) Arch. Inst. Pasteur de la Guyane et due Territoire de l'Inini. Publication No. 292. 1953, Aug., 10 pp.

The author has treated 23 leprosy patients for periods of 2 to 15 months with daily doses of 300 to 500 mgm. of isoniazid. Except in one patient who made remarkable clinical and bacteriological improvement within 11 months, this drug did not prove itself of much real value. There was some clinical improvement in some lepromatous cases, but this did not carry corresponding bacteriological amelioration. There was some reason for hope that

a combination of DDS and isoniazid would give better tolerance and avoid the danger of drug resistance, but no ground for such hope is given. Isoniazid does not appear to prevent reactions.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

FLOCH, H. (1954).

Colchicoside in the treatment of reaction in leprosy. *Therapie*, 9, No. 4, p. 440.

Colchicoside is an extract of colchicum, one hundred times less toxic than colchicum in mice, but possessing marked "A.C.T.H. like" properties (reduction of eosinophils, protection against anaphylactic shock caused by sensitisation of horse serum). It has been found effective in various allergic conditions. It has been well tolerated when given daily by intravenous injection in doses of 10 milligrams. Its trial in leprosy reaction appeared worth while, for the immediate action of A.C.T.H. and cortisone in the condition is very beneficial, although doubts exist regarding the late results.

The use of colchicoside is reported in five cases of severe 'reaction' arising during, or preventing the use of, sulphone treatment. In one case, given three intravenous injections 10 mg., reactions apparently of an allergic nature occurred and the drug was stopped.

In the other four cases, started on 5 mg. daily, given intravenously for 3-5 days, and then 10 mg. for 5 more days, the results are recorded as very beneficial. The reaction rapidly subsided and the general condition markedly improved.

LEITE, A. S., DA LUZ, J. V. B., and NOGUEIRA, J. P.

Relatorio da Missao de Combate a Leprosia na Provincia Ultramarina da Guine. (Report of a Mission for Combating Leprosy in Portuguese Guinea.) *Anais Inst. Med. Trop. Lisbon*. 1953, Mar., v. 10, No. 1, 79-163 2 diagrams, 18 figs. and 2 coloured folding maps.

This is a report of a party of medical specialists sent from Portugal to investigate the extent and other particulars of leprosy in Portuguese Guinea, and to formulate a policy for its control. The itinerary followed is shown in a map. The method used was that of Dr. Ross Innes in East Africa. The 1950 census gave the total population of the province as 499,770. The number of people examined was 94,389, among whom 2,429 were found suffering from leprosy (2.57 per cent). It was roughly calculated

that 10 per cent of these were open infectious cases. It is calculated further that in the whole province there are about 12,861 cases of leprosy. It is proposed to treat the closed cases as out-patients at various centres, giving DDS orally, and to admit the open cases to the agricultural leprosy colony at Cumura near Bissau, and possibly later to a second colony in the inland region of Bafata. Cumura will be able to hold between 1,500 and 2,000 patients. The incidence varies among the different tribes, being highest among the Fula (3.5 per cent) and the Manjaca (4 per cent). The number examined in each tribe, and the numbers of cases found, are shown in a map, and further details are given in several tables. There are 18 photographs showing types of cases and buildings.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

ARQUIVOS MINEIROS DE LEPROLOGIA.

1952, Oct., v. 12, No. 4, 279-426. XI Cursos de Leprologia. (The Minas Gerais Archives of Leprology. XI Course of Leprology.)

This volume is principally composed of an account of a conference of Brazilian leprologists, who had before them for discussion two subjects: Experience with Sulphone Therapy in Brazil, and The Rights and Aspirations of Brazilian Leprologists (abstracter's translation).

The first of these took the form of a symposium, answers being made by those present to questions which had been circulated beforehand. There was much discussion on the method of administration of sulphones, whether it should be continuous or intermittent, and the length of time that sulphones remained in the tissues. The criteria of discharge from leprosaria received attention, as did also the frequency of relapse, and the frequency with which the lepromin reaction was converted from negative to positive in lepromatous cases which had become bacteriologically negative. The chairman in summing up spoke of the dispensary as the prophylactic unit par excellence, where the disease could be eliminated in its basic forms, although a long time might elapse before we might enjoy the full benefit of the new weapon (sulphones). It would be possible for lepromatous patients who after treatment had only a few vacilli left to continue their treatment at dispensaries. The phenomenon, described by Sousa Lima, of the negative lepromin reaction being converted to positive in recovered lepromatous cases had not yet been confirmed by many workers. He spoke of lepromatous cases subjected to sulphone treatment that they " frequently behave like the syndrome of tuberculinic hyper-

sensibility," and suggested cross desensitising with tuberculin or BCG. We need more ample and accurate knowledge regarding sulphone-resistance and the time and form of relapses, and more accurate control of symptomatic cures and their possible transformation into biological cures.

The discussion on the rights and aspirations of leprologists revealed a rather disquieting condition. The disease appears to be increasing, but it is difficult to get the personnel necessary to combat it adequately. Dr. Diniz ascribed this difficulty to the conditions under which work had to be undertaken, and put forward eight suggestions for improving the circumstances of leprologists, including adequate remuneration, reduced time away from home, better conditions for work, and more facilities for study. Dr. Fonte made a plea for more disinterestedness. Leprosy could not be conquered by sanitation, engineering or immunisation. Everything depended on systematic examination of the contacts of the new cases found. In spite of all that might be said to the contrary leprosy was increasing; the returns showed a proportion of 60 per cent of infectious cases, and 50 per cent of known cases were not under effective control of the sanitary authorities.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

TOUZIN, R., and MERLAND, R.

Traitement de la lèpre par une nouvelle sulfone disubstituée. Son élimination dans les milieux biologiques. (Treatment of Leprosy with New Disubstituted Sulfone. Its Elimination in the Body Fluids.) *Med. Trop. Marseilles*, 1953, Nov.-Dec., v. 13, No. 6, 1002-24, 8 charts. (15 refs.)

This disubstituted derivatives of DDS is diethyl-4 4/diaminodiphenyl sulphone-disulphonate of soda (M2196), produced by Rose in 1942 but never before used therapeutically. The blood concentration rises rapidly after injection, and then falls to a low level which is maintained almost equal from the 24th to the 48th hour. The concentration produced, after different degrees of dosage, in the blood, urine and milk are shown by means of many graphs and tables. Trials were made on 49 patients, 43 of whom continued the treatment. Of these, 22 were lepromatous, most of them very advanced in the disease. The results were very striking in 11 of the lepromatous cases, as regards both clinical and bacteriological improvement. The product is very soluble and its intramuscular injection causes little or no pain. Injections were given thrice weekly in doses up to 800 mgm., corresponding to 400 mgm. of DDS. It is considered that M2196 is tolerated better

than DDS and its other derivatives, and that a constant level of blood concentration is not necessary for efficient results. After only 12 to 18 months' treatment it is still too soon to assess the full results, but it is considered that so far these are promising.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

DE MESQUITA, S. J. B.

Die Lepromin-Reaktion bei 80 Marine-Infanteristen aus Holland. (The Lepromin Reaction in 80 Marines from Holland.) *Ztschr. f. Tropenmed u. Parasit.* Stuttgart. 1954, July, v. 5, No. 3, 376-8.

Of 80 marines staying temporarily in Surinam, seven had previously been in Indonesia, but the rest had come direct from Holland. The lepromin test showed a positive early reading (Fernandez) in 10, and a later reading (Mitsuda) in 31. The author considered that this proportion of positive results is below the average obtained in healthy persons elsewhere.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

LAVIRON, P., and LAURET, L.

Resultats de'ensemble, apres cinq ans du traitement de la lepre par le 3668 R.P. (Cimedone). (The Average Results after 5 Years of Treatment with 3668 R.P. (Cimedone).) *Med. Trop. Marseilles.* 1954, Jan.-Feb., v. 14, No. 1, 65-8.

This is a report on results after treatment of 71 lepromatous, seven tuberculoid and seven undifferentiated cases of leprosy for periods up to five years, with Cimedone, the French equivalent of sulphetrone. The degree of improvement is graded into 1, 2 and 3-plus.

Of the lepromatous patients there was 3-plus clinical improvement of 44, 42, 80 and 90 per cent, respectively, in those with treatment up to 2, 3, 4 and 5 years, and 39 became bacteriologically negative. There was some amelioration in 98 per cent of those treated.

Cimedone was given at first intravenously, but this was soon abandoned because of the many reactions and the difficulty of giving daily injections. Oral treatment was substituted, patients being given 2 tablets of 0.5 gm. daily for the first week, 4 for the second, and then 6 tablets (3 gm.) continuously with a break of one week after every four weeks. There was intolerance only in two cases; reactions which were numerous at first became less as treatment proceeded. In none of the lepromatous cases did the negative lepromin reaction become positive.

The results in tuberculoid and undifferentiated cases were not as good as in the lepromatous. Compared with treatment with DDS, that with Cimedone gave, if not more rapid, at least more appreciable results. The inconvenience of Cimedone is that it is necessary to give large quantities daily, which makes it unsuitable for mass treatment.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

LAVIRON, P., LAURET, L., and JARDIN, G.

Resultats apres trois ans du traitement de la lepre par des injections espacees de DDS. dans le chaulmoograte d'ethyle. (Results after 3 Years of Leprosy Treatment with Spaced Injections of DDS in Chaulmoogra Esters.) *Med. Trop. Marseilles*. 1954, Jan.-Feb., v. 14, No. 1, 69-71.

Ninety-one patients were treated at the Marchoux Institute in the French Sudan and 1,134 at bush centres. Injections were given intramuscularly of 5 cc. of chaulmoogra ethyl esters suspending 1.25 gm. of DDS twice a month. This was found sufficient to maintain an adequate level of sulphone concentration in the blood for 15 days. Tolerance was good, treatment having to be interrupted only in six cases. There were four deaths from intercurrent diseases during the course of treatment. Leprea reactions were frequent during the first few months, but became exceptional after the second year of treatment. Improvement was most marked in the lepromatous cases and less in the other forms. In the first year, of 56 lepromatous patients three became bacteriologically negative, seven in the second year and 17 in the third. The first few injections sometimes gave local pain with accompanying fever for two or three days, but after a few injections this pain did not occur.

This form of treatment is liked by the patients, and is convenient for the 22 doctors who carry out the treatment over wide areas.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

GUSSENHOVEN, G. A.

Behandeling van lepra met isonicotinezuurhydrazide. (Treatment of Leprosy Patients with Isonicotinic Acid Hydrazide (INH).) *Nederl. Tijdschr. v. Geneesk.* 1954, Sept. 4, v. 98 (iii), No. 36, 2481-7.

The English summary appended to the paper is as follows:

"Eleven leprosy patients in South Sumatra (Indonesia) were treated with INH. In one patient a serious leprosy reaction was

interrupted; a second showed repeatedly serious reactions by the drug. Of the other nine none showed any improvement, neither clinically, bacterioscopically or histopathologically. A daily dose of 6 to 8 mg. per kg. body weight caused in the majority of patients serious toxic reactions.'

AZULAY, R. D.

O papel protetor do B.C.G. na lepra murina. (The Protective Property of BCG in Rat Leprosy.) Rev. Brasileira Leprologia, St. Paulo. 1953, Dec., v. 21, No. 4, 285-91 (19 refs.). English Summary.

Fifty-seven rats were inoculated each with 20 mgm. of BCG, 20 other rats being left as uninoculated controls. Both groups inoculated with Myco. *Lepae murium* 115 days later. In the group inoculated with BCG the lesions appeared later and were smaller in size. There was no difference in the morphology or staining of the bacilli in the two groups, but the percentage of infection in the internal organs was greater in the unprotected group, and the lesions were more extensive. Because of the similarity between rat and human leprosy it is considered that these experiments confirm the viewpoint that BCG is useful in the prophylaxis of human leprosy.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

MONTEL, M. L. R.

Un cas de lepre contractee en France. Contagion familiale. (A Case of Familial Leprosy Infection Contracted in France.) Bull. Soc. Path. Exot. 1954, v. 47, No. 2, 201-2.

This note records the case of a woman of 37 in France who developed a tuberculoid leprosy lesion in the right popliteal space. Later a biopsy suggested that this had all the potential cellular elements of "a future leprosy (see above). No acid-fast bacilli were found in the lesion or in the nasal mucus. The Mitsuda test was strongly positive. The lesion disappeared completely in seven months after treatment with thiosemicarbazone.

The patient had had close contact with her daughter who had contracted lepromatous leprosy in French Sudan, and this had become generalised a year before her mother's lesion developed. The daughter's nasal mucus was bacteriologically positive.

H. J. O'D. BURKE-GAFFNEY.

(Abstracted in *Tropical Diseases Bulletin*.)

MONTESTRUC, E., and MARTIN DE MIRANDOL, P.

Sur la fixation des bacilles de Hansen au point d'inoculation d'une injection d'anatoxine antitetanique. (On the Fixation of Myco. leprae at the Point of Inoculation after an Injection of Antitetanic Serum.) Bull. Soc. Path. Exot. 1954, v. 47, No. 2, 196-8.

A patient, who during his military service had been wounded by a rusty nail in the sole of the foot, was given an antitetanic injection in the left forearm. Round the point of inoculation a smooth light-coloured macule developed with changes in sensibility. This gradually spread, became infiltrated and then formed nodules. When he was examined three years later there was a widespread lesion of the forearm with flattening round the point of inoculation. Many lepra bacilli were found in globi in the nodules. The question is discussed whether the bacilli were injected along with antitetanic serum or were already in the body and were fixed by the substance injected at the point of the inoculation, as sometimes occurs with the tubercle bacillus. The authors, while acknowledging both possibilities, are in favour of the latter explanation.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

ROSEMBERG, J., SOUZA CAMPOS, N., and AUN, J. N.

Estado actual do conhecimento da inversao da reacao de Mitsuda por efeito do BCG oral. (Present State of our Knowledge regarding the Inversion of Mitsuda's Reaction by means of Oral BCG.) Hospital, Rio de Janeiro. 1953, July, v. 44, No. 1, 33-73, 11 figs. (45 refs.).

First the technique employed in performing the lepromin test and reading the results is described. A list is given in tabular form of 18 experiments in which BCG has been administered by various workers and the results obtained in reversing the reaction to lepromin from negative to positive. After oral administration of BCG not only does the negative lepromin reaction become positive in about 100 per cent of patients, but in course of time the reaction tends to become stronger and it remains positive for at least three years. Orally administered BCG also increases the positivity of the lepromin reaction in those originally positive.

To a certain number of children who had not reacted to lepromin, BCG was administered 41 days after the lepromin injection, and in some of these a remote reaction was produced, a nodule appearing 30 days after the vaccination at the site of the previous lepromin injection. In many cases, in spite of BCG not producing a positive tuberculin reaction, the lepromin reaction becomes positive. BCG administered in repeated doses to persons positive to tuberculin may gradually desensitise them until their

tuberculin reaction becomes negative. Oral BCG administered to lepromatous patients with frequent reactions may make these reactions become less frequent and severe; if this is followed by the injection of tuberculin a reaction of the erythema nodosum type occurs. (This is a very full and clearly argued article which will repay careful study in the original.)

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

FERRAND, B.

La ponction biopsie due foie dans la lepre. (Puncture Biopsy of the Liver in Leprosy.) Bull. Soc. Path. Exot. 1954, v. 47, No. 2, 203-7, 1 fig. on pl.

Five lepromatous cases are described in which a liver puncture was done and the material recovered examined microscopically. The author was surprised to find leprous nodules in the hepatic parenchyma. Masses of bacilli were found in the usual nodular formation, with Virchow's cells and a more or less dense infiltration of histiocytes. The nodules were often numerous and sometimes in the region of the intralobular vein, occasionally the size of 20 liver cells. The Kupffer cells were often parasitised, but bacilli were not observed in the liver cells, which were pushed aside by the nodules. There was also a diffuse infiltration of lymphocytes and monocytes, but this inflammatory appearance was inconstant and moderate in degree. The author considers this method of examination safe if precautions are taken, and preferable to puncture of the sternum or testicle. It might with profit accompany skin biopsy or gland puncture.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

MARIANO, J.

Consideracoes sobre os aspectos clinicos e localizacao da nevrite leprosa. (Considerations of the Clinical Aspects and the Locality of Leprous Neuritis.) Arquivos Mineiros de Leprologia. 1953, Apr., v. 13, No. 2, 136-9. English summary (9 lines).

Leprous neuritis is unique in being the only neuritis caused by an ascending bacillary infection. In 300 cases examined the ulnar nerve was the most affected, being found in 223. The external popliteal was next in frequency, occurring in 96. Only in leprous neuritis are the volume and consistency both of the nerve trunks and the slender nerve filaments modified by the infection.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)

CONTRERAS, F.

Profilaxis de la lepra. (The Prophylaxis of Leprosy.) Rev. Sanidad e Hig. Publica. Madrid. 1953, Mar.-Apr., v. 27, Nos. 3/4, 226-47.

This is a very thorough history of means that have been taken to control leprosy from the earliest times. Four stages of evolution are described: (1) the period of terror of leprosy; (2) the period when all leprosy patients were compulsorily segregated; it is difficult to understand the attitude of Daniellssen and Boeck, who insisted on this segregation, yet declared that leprosy was spread by heredity; (3) prophylaxis by isolating infectious cases and treatment of all, which was recommended at the second international congress held at Bergen in 1909; (4) early diagnosis by examination of contacts of known cases, and the treatment of all cases found. This last method as now followed in Spain is fully described.

ERNEST MUIR.

(Abstracted in *Tropical Diseases Bulletin*.)