

CURRENT LITERATURE

BURDON, K. L. Disparity in appearance of true Hansen's bacilli and cultured "leprosy bacilli" when stained for fat. *J. Bacteriology*. 52 (1946) 679-80.

The author has studied, by means of his improved Sudan black B fat-staining procedure, both true Hansen's bacilli in films from cases of leprosy and cultured acid-fast organisms claimed to be those of leprosy. Heat-fixed films of leprosy material were stained with dilute carbol fuchsin only and characteristic clumps and globi of lepra bacilli located and ringed. After removing the immersion oil with xylol, Sudan black B solution was applied for 15 minutes or longer, and some of the films counterstained with dilute carbol fuchsin. The ringed organisms were then examined for evidence of stained intracellular lipid. The important observation was thus made that in the case of both tubercle bacilli and also in various cultured "leprosy bacilli," stainable lipid was constant and prominent; but no intracellular fatty material was observed in any films of true Hansen bacilli. Moreover, human tubercle bacilli in direct preparations from tuberculous tissues, as well as in most cultures, do contain matter which stains with Sudan black B. He suggests that his observations lend support to the view that the various acid-fast bacilli, which have been cultivated from leprosy tissues from time to time, are not those of leprosy, but are saprophytic acid-fast bacilli, others of which also contain lipid staining particles. [Abstract from *Trop. Dis. Bull.* 44 (1947) 721.]

CAMPOS, J. M. CABELLO. Calcificação dos nervos na lepra. (Calcification of nerves in leprosy.) *Rev. brasil. de leprol.* 16 (1946) 45-50, 12 illustrations.

The presence of nerve calcification in leprosy is very rarely verified. Souza Campos (1942) reported 4 cases in the literature in his clinical study of the subject; in that report our case was the first observed by X-ray examination. Since then all patients with calcification of nerves, 15 in number, have been examined. Among these the author found one more case which is carefully being included. Differential diagnosis is made from other conditions.

—GLYNNE L. ROCHA

CAMPOS, N. S. Da importância da lepromino-reação no controle das crianças recolhidas aos preventórios. (Importance of the lepromin reaction in the control of the children living in preventoria.) *Rev. brasil. de leprol.* 14 (1946) 3-20, 7 tables.

The data of this paper on lepromin reaction cover nine years observation among children from the preventoria of the State of São Paulo. Starting with the technique of making the antigen, site where the reaction is performed, time for reading and interpretation of the results, the author covers the technical side of the problem.

Conclusions are drawn from the observation of 985 children who have passed through the preventoria of São Paulo, including 77 who were discharged from the hospital during that period. The following groups are discussed as regards their lepromin reactions.

- (1) Children in whom the reaction has not undergone change in repeated tests
- (2) Children in whom the reaction has undergone change in repeated tests

- (3) Children isolated from birth
- (4) Children who have developed leprosy
- (5) Children discharged from the hospital and placed in the preventoria.

The author concludes that only children with positive bacteriological examination and negative lepromin reaction should be removed from the preventoria; even those with clinical lesions of "uncharacteristic" type, negative bacteriologically although Mitsuda negative, may stay in the preventoria under close observation under the possibility that the lepromin reaction may become positive. Clinical, bacteriological and histological control should be carried out rigorously in all lepromin negative children, especially those born from lepromatous parents, who are the most susceptible to infection. According to the author's observation in not all children born in the leprosarium from leprosy parents are the first lepromin reactions negative. This would argue in favor of a constitutional factor "para-specific," and that repeated lepromin tests frequently bring out this factor (among 109 children isolated from birth 53 have already become positive at different stages of observation). This fact would suggest two important questions of immunologic order: First is there an immunity revealed by the positivity to lepromin after re-inoculation of the Mitsuda antigen or is this immunity congenital, or para-specific? In the first hypothesis the re-inoculation would confer an active immunity, and would have a great prophylactic value. In the second case there could be a refractory congenital stage that would explain why some members of the same family living under the same conditions develop the disease while the others do not. This interesting problem is being studied by the author by trying to confer a hyperergic stage to the leprosy infection in anergic persons.

—GLYNNE L. ROCHA

COSTA, OSWALDO G. and MARIANO, JOSE. Tuberculoid leprosy of lupoid appearance. Arch. Dermat. & Syph. 55 (1947) 474.

The authors report a case of tuberculoid leprosy with lesions at the right mandibular angle resembling *lupus tumidus nonexedens* and lesions at the right elbow and right forearm resembling *lupus tumidus exedens psoriasiformis*. The clinical likeness was almost exact except that the lesions of true tuberculous lupus are easily perforated with a probe. The evolution of the disease was of long duration, but there had never been a phase of reaction.

Histologically, the derma was filled throughout with a dense inflammatory infiltrate, consisting of granulomas. These granulomas consisted of epithelioid cells, with a few giant Langhans cells and large numbers of lymphocytes at the periphery. No alcohol resistant or acid-resistant bacilli were found in the lesions. A guinea pig inoculation with material from the lesions produced no reaction (thirty days later). The Mitsuda reaction was tardily positive, with the peculiarity that the aspect of the patient's nodules was faithfully reproduced (an isomorphic reaction).

—J. TOLENTINO

DAVEY, T. F. Some observations on the role of allergy in leprosy (2). Part II. Allergy and the macular series. Leprosy Review. 17 (1946) 75-87.

The author considers that the three recognized varieties of macular leprosy, namely, lepromatous, simple neural (flat) macules, and tuberculoid

macules, are insufficient for the description of this type of lesions. He considers that a larger variety of forms occur shading one into another and varying between the mildest one, namely localized lesions of the mildest tuberculoid form and pale flat macules, up to—at the other end of the scale—innumerable poorly defined macules of the lepromatous group with no effective localization and representing a temporary phase in the advance of the infection. The mild types give positive lepromin reactions and those at the other end of the scale give negative ones. The author thinks that an allergic mechanism underlies all macular forms of leprosy, as they may appear suddenly. A table of lepromin reactions in six groups that are described gives progressively more doubtful or negative reactions as the lepromatous type is approached. In the raised macule series, positive results were 77-90 per cent. [Abstract from *Trop. Dis. Bull.* 44 (1947) 325.]

DEIBEL, H. K. Over behandeling van "lepra" (tuberosum en nervosum) met een gewijzigd chaulmoogra-preparaat. (Treatment of leprosy with a modified chaulmoogra preparation.) *Med. Maandblad. Batavia.* (1947) 146-8.

The regular treatment of leprosy was not available to prisoners of war. This led the author to try a mixture of chaulmoogra oil 60, and cod-liver oil 40 parts, sterilized for half an hour. It was given weekly in doses of 1 cc. and then of 2 cc. intramuscularly, with effects which seem to have been obviously better than under the older treatment. The cod-liver oil should not be highly acid or injection will be painful. [Abstract from *Trop. Dis. Bull.* 44 (1947) 727.]

FLOCH, H. and DE LAJUDIE, P. Sur la lèpre en Guyane Française. I. Généralités. Répartition par âge. Dépistage. Contamination. (Leprosy in French Guiana.) Institut Pasteur de la Guyane et du Territoire de l'Inini. Publication No. 131 (1946).

The author quotes data of the number of leprosy cases reported at different times in this French Colony from 1743 onwards. During the period from 1886 to 1937 the number of known cases increased from 100 to 200 to 609 and those among the penal element increased from 24 in 1897 to 130 seen from 1924 to 1928. Since the formation of the Institut Pasteur in the colony in 1914 more attention has been paid to leprosy and from 1925 to 1946, 1,447 cases have been recorded, and in the last-named year 1,131 cases were known against 677 at the end of 1938. That makes 5.1 per cent of the estimated population of 22,000, to which must be added an estimated 300 cases to bring the percentage up to 6.5 per cent. The age incidence shows 44.3 per cent up to the age of 15 years and 64 per cent up to the age of 25. The largest proportions were at the ages of 6 to 10 among the children, many of which were detected by the examination of schools, and favorable results have followed the removal of such cases. Conditions under which infections occurred are most commonly family contaminations, and no evidence of the disease being hereditary was met with; school infections were also frequent. Neuromacular cases were the most common form. [Abstract from *Trop. Dis. Bull.* 44 (1947) 322.]

GINES, A. R. and POLETTI, J. G. La reacción de Mitsuda en los vacunados con BCG. (Posibilidades de la vacunación BCG en la profilaxis de la lepra.) (Mitsuda's reaction and BCG vaccination.) *Bol. Oficina Sanitaria Panamericana.* 25 (1946) 884-8.

This is an interesting contribution by way of preliminary and is worth following up. Fernandez in 1943 pointed out certain affinities between leprosy and tuberculosis in that positive reactors to tuberculin were positive also to the Mitsuda reaction. From this, the idea naturally followed of the possibility of BCG vaccination being tried as a prophylactic against leprosy. The authors examined 31 boys, some of leprosy parents, interned in a sanatorium in Paraguay, but free from leprosy. Twenty-four of them gave positive reactions to tuberculin and some showed infection of the glands by X-rays. All were given BCG by multipuncture (Rosenthal's method). In 11 of them the Mitsuda reaction was not known before the BCG was inoculated, but afterwards 9 were positive. In the 20 the Mitsuda reaction was negative, but afterwards 16 of them became positive. It is argued that if a positive Mitsuda reaction is a sign of relative immunity to leprosy, then the inoculation of BCG may be able to protect, in some degree at least, against leprosy. [This work was also described in *Hoja Tisiologica*. 5 (1945) 287.] [Abstract from *Trop. Dis. Bull.* 44 (1947) 528.]

HARLEY, R. D. Ocular leprosy in Panama. *Am. J. Opth.* 29 (1946) 295.

The effect of leprosy on the eye has been studied in 150 cases in Panama. Seventy per cent of the patients were natives of Panama. The remainder came predominantly from the bounding countries and the West Indies. Ninety per cent of the patients of a leprosarium were found to have ocular involvement. Impaired vision is common in leprosy. Thirteen per cent were totally blind, and an additional 41 per cent had vision reduced to 20/200 or less. The anterior segment of the eye is by far more frequently involved than is the posterior segment. Superficial punctate keratitis or pinpoint lepromas of the irises are so typical as to be diagnostic of ocular leprosy. Glaucoma is not common. Absolute corneal anesthesia is rare, but relative loss of corneal sensitivity does occur.

Prophylaxis for leprosy eyes through protection with dark glasses or goggles is indicated. The factor of protection has been under-emphasized in the past.

Therapy is largely confined to palliative measures. Solution of thyroxin used topically may be of aid in helping to clear corneal infiltrates. The leprosy patient withstands surgical treatment of the eye better than one might expect. Operation of the lids produces gratifying results.

[Abstract from *Arch. Dermat. & Syph.* 55 (1947) 549.]

IBARRA PEREZ, R. and GONZALEZ PRENDES, M. A. Incidencia de la lepra según el sexo, en Cuba. (Sex incidence of leprosy in Cuba.) *Marianao, Cuba. Rev. Sifilografía, Leprología y Dermatología*. 3 (1946) 117-19.

That more males suffer from leprosy than do females is a general belief and it is ascribed to the greater exposure of the former to contagion "owing to their greater social activity." Others have observed that where the occupations of men and women are the same or very similar the difference in incidence is much less marked. In such circumstances Sadi de Buen in Spain gave the ratio as 1.5:1 among 474 patients; in Mexico among 5,165 it was 1.3:1; in Cuba in 1946 it was 1.52:1, but the figures differed considerably in different provinces. Among ambulant cases in Pinar del Rio 1.9:1 (but only 67 patients were seen altogether), in Matanzas 1.7:1 among 134, in Oriente 1.6:1 among 822, in Camaguey 1.5:1 among

383, in Havana 1.4:1 among 508, and at Las Villas 1.3:1 among 283. But among 638 hospital patients the proportion was 2.5 male to one female. Taking hospital and ambulatory cases together, the totals are 1,710 males to 1,125 females, or 1.52:1, as stated above. [Abstract from Trop. Dis. Bull. 44 (1947) 430.]

IBARRA PEREZ, R. and GONZALEZ PRENDES, M. A. Incidencia de la lepra y ocupaciones. (Occupation and the incidence of leprosy.) Rev. Sifilografía, Leprología y Dermatología. Marianao, Cuba. 3 (1946) 159-65.

The occupations of 2,840 leprosy patients in Cuba have been ascertained, but the subdivision is too detailed to allow much in the way of valid deduction to be drawn, for the occupations number 105 and in 36 of them there is only a single case and in 78 the number is less than ten. The greatest incidence, 723 (25.3 per cent) was among women working at home; next come agricultural laborers, 430 (16.6 per cent); retired or of "no occupation," 231 (8.3 per cent); day laborers, 180 (6.3 per cent); students, 171 (6.0 per cent); "officials," 114 (3.8 per cent); and traders, 103 (3.5 per cent). In their summary, the authors state that the incidence is highest among those of a social class which has generally a low standard of living. [Abstract from Trop. Dis. Bull. 44 (1947) 590.]

LANGULLON, J. Le traitement des ulcères plantaires de la lèpre par les injections intra-musculaires d'acécoline et d'angioxyl. (The treatment of leprosy plantar ulcers by intramuscular injections of acécoline and angioxyl.) Bull. Soc. Path. Exot. 39 (1946) 339-41.

Seven cases of very chronic plantar ulcers, three of them of from 5 to 7 years' duration, are reported on. The first five were treated by the method of Tisseuil, namely by a series of twelve injections on alternate days of 20 cgm. of Acécoline (a solution of acetylcholine hydrochloride) intramuscularly. Rapid improvement took place and three of the patients, who had been bedridden for months, were able to resume their work on plantations. A sixth was treated with similar success by twelve injections of forty units of angioxyl intramuscularly, and the seventh case was presumably treated by the same drug, although this is not explicitly stated. The healing effects of the drugs were very marked. [Abstract from Trop. Dis. Bull. 44 (1947) 596.]

MACKAY, A. G. Notes on leprosy Settlements, Tanganyika Territory. Leprosy Review. 18 (1947) 23-30.

In dealing with the scattered foci of leprosy in the enormous area of these territories, the author points out the advantages of several comparatively small provincial leprosy settlements over a single very large one. The task is simplified by the fact that only 5-10 per cent of cases in Central Africa are lepromatous, 15 per cent mixed, and 75-80 per cent neural; the neural type may for all practical purposes be regarded as non-infective, and hence does not require isolation. In the Makete Settlement, the incidence of leprosy in the children of infected parents is surprisingly low. The average population is about 1,500 and new patients construct their own houses. Each patient has a minimum of five acres of land so that after the first year the patients are self-supporting. Occupational therapy is encouraged to produce for the needs of the settlement. A good water supply is essential. Admissions are voluntary, so the settlements must be made attractive. Conjugal infections are very rare and therefore separa-

tion of husband and wife is rarely necessary, but any children born to them should be sent to relatives before they are six months old. [Abstract from *Trop. Dis. Bull.* 44 (1947) 720.]

MIRANDA, RUY NORONHA. *Ulcera artificial com fins curativos em doentes de lepra.* (Artificial ulceration for curative purposes in leprosy patients.) *Rev. brasil de leprol.* 14 (1946) 35-42, 6 illustrations.

This is a report of 7 cases in which ulcers were created artificially as a method of treatment in the Colonia of São Roque, Paraná, Southern Brazil. According to popular belief an ulcer is a place where all the "bad humors" leave the body, resulting in improvement in health of the patient. Artificial ulcers were made by slow destruction of the tissues by a mixture of quick-lime, ashes, and water. These were kept open by using a small ball of wax. All ulcers were on the legs. This form of ulcer is called "fountain" (fonte) ulcer. Patients demanded this type of treatment, so the author selected two groups of 10 patients each for study. The first group were given the "artificial ulcer" treatment, the second group the ordinary treatment. The patients in the first group are gradually giving up the artificial ulcers and taking the regular scientific treatment.

—GLYNNE L. ROCHA

MOM, A. M. *Quimioterapia de la lepra con promin.* (Promin in the treatment of leprosy.) *Prensa Méd. Argentina.* 33 (1946) 2390-404.

The work of Faget and his collaborators on the treatment of leprosy with promin has been referred to in the *Trop. Dis. Bull.* 41 (1944) 494. Since then Faget and Pogge have made a second communication regarding 137 patients (*Trop. Dis. Bull.* 43 (1946) 343). The present author has treated 56 patients with promin. The drug is put up in 5 cc. ampoules (each containing 2 gm.) or in 12.5 cc. ampoules (5 gm.) and administered intravenously diluted with saline; it is not well tolerated when given by mouth. The routine of administration is 2 gm. daily for a week, then 5 gm. for 6 days a week (omitting Sundays) for 4 months and the course is repeated after an interval of a fortnight. The results are presented in a series of tables which deal with 54 of these patients. The maximum dosage administered was 1,810 gm. The improvement depends on the dosage. Thus, of 21 receiving up to 2 gm. daily, 12 showed improvement; 4 out of 7 receiving 2-3 gm. daily; 17 out of 22 receiving 3-4 gm., and all of four receiving 4-6 gm. daily improved. Six out of 14 receiving treatment for less than 8 months improved, but 31 out of 40 who were treated for more than 8 months were benefited. By improvement is implied fading of the erythema, lessening to actual disappearance of the infiltration and nodules, diminution of the neuritis, healing of ulcers, and lessening in numbers of the bacteria. Thirty-seven were observed after 10-12 months' treatment; 30 had improved, 6 were stationary, (one is not accounted for) and of 12 who had had 5-10 months' treatment 5 improved, 6 remained stationary and one was worse. The fact must not be omitted that all received a minimum of 500 mgm. of ascorbic acid intravenously each day. The promin action may be accompanied by a haemolytic type of anaemia and a degree of leucopenia, but these yield to preparations of iron in the milder degrees and to liver in the more severe. The good effects of promin appear to be limited to the lepromatous forms of the disease; it had no effect on tuberculoid leprosy. An added note states briefly that study is being undertaken of combined treatment by promin and chaulmoogra oil in large doses intra-

muscularly and by mouth, and "first impressions are that the results are better than with promin alone." Illustrations of patients show well the changes effected by the use of promin. [Abstract from Trop. Dis. Bull. 44 (1947) 594.]

PARDO-CASTELLO, V., TIAN, FRANCISCO, and PINEYRO, RAUL. Nerve lesions in leprosy. Arch. Dermat. & Syph. 55 (1947) 783.

The authors believe nerve lesions are present in almost every case of leprosy, regardless of the clinical type. The pathologic changes in cases were found to be identical whether the lesions affected the skin, the nerves, or the viscera, and the structure of the lesions of the nerves coincided with that of the lesions of the skin. In other words, in a case with lepromatous cutaneous lesions, the nerves also showed lepromatous histological structure consisting of infiltrates of lymphocytes surrounding the vascular cells of Langhans, and abundant acid-fast bacilli. In a case with tuberculoid cutaneous lesions, and in the so-called "nerve" type, with or without skin manifestations, the nerves showed the tuberculoid histological structure consisting of infiltrates of lymphocytes and epithelioid cells surrounding large multinucleated giant cells, and without acid-fast bacilli. From this identical histological structure in the tuberculoid and the "nerve" type, they concluded that the latter was in reality tuberculoid leprosy.

Lepromatous leprosy usually shows clinical involvement of large nerve trunks, such as the ulnar, the median, and the saphenous nerves while tuberculoid leprosy usually involves the nerves in conjunction with cutaneous lesions, at times almost exclusive nerve involvement, showing enlarged terminal nerves, enormously thickened nerve trunks, and areas of cutaneous anesthesias, with or without skin changes, and often causing muscular atrophies. Some of the patients with so called "neural" leprosy have maculo-papular and annular leprids, muscular atrophies, reabsorption of terminal phalanges, and mal perforans plantaris.

The authors believe there is no reason to maintain the existence of "neural" and "cutaneous" forms of leprosy.

—J. TOLENTINO

RADNA, R. Sur l'évolution de certains cas de lèpre neuromaculeuse. (The evolution of certain cases of neuro-macular leprosy.) Ann. Soc. Belge de Méd. Trop. 26 (1946) 89-93.

The statement of R. G. Cochrane that many cases of leprosy never become active has led the writer to record his experience on the evolution of early neuro-macular cases. Among 55 untreated Ns 1 cases, with few bacilli in the lesions, examined in 1935 and again in 1940, 29 had remained stationary, 4 had improved and 22 were worse, and one of the latter had developed towards the lepromatous type. Further, among 34 early neuro-macular tuberculoid cases, Nt 1 of the Cairo nomenclature, 21 showed no change, 6 had improved and the remaining 7 had grown worse; one of these had developed towards the lepromatous state (L2), in 4 more the skin lesions had increased and in the remaining 2 grave mutilations had occurred. On the other hand, among similar patients treated with oil of Caloncoba and sodium gynecardate rapid improvement took place, which the author regards as being due to specific treatment with favorable results. He agrees with other workers that treatment is least effective in the case of patients in poor general condition, which is often due to helminthic and other complications. [Abstract from Trop. Dis. Bull. 44 (1947) 324.]

WHARTON, L. H. Leprosy survey of school children in British Guiana. *Leprosy Review*. 18 (1947) 30-33.

It is recognized that infection of children is the key to the leprosy problem; this is the first survey of school children in British Guiana to be reported. A total of 42,811 children with approximately equal numbers of boys and girls examined, revealed 94 infections, 48 boys and 46 girls: an unusually large incidence among females. No less than 91 were early neural cases, which were treated at out-patient clinics; 1 was lepromatous and the remaining 2 were more advanced neural cases. The entire coastal area, which contains 90 per cent of the whole population, was surveyed, in the course of 18 months. Most of the cases were in children between 6-10 years of age. Two teachers were also infected. All the Government schools were visited and it is proposed to examine the children in secondary and denominational schools at the next survey. It has not yet proved possible to examine the contacts of the cases discovered. Definite progress has been made in convincing the public that the disease can be cured, "and the remarkable results obtained in children treated as out-patients has been proof of this." [Abstract from *Trop. Dis. Bull.* 44 (1947) 720.]