CURRENT LITERATURE

It is intended that the current literature be dealt with in this department. It is a function of the Contributing Editors to provide abstracts of all articles published in their territories, but when necessary such material from other sources is used when procurable.


This little booklet, of 182 pages, gives full details of the meeting, of which there were 42 "permanent members," 2 were from Makerere University College in Uganda, and 1 was from Germany. Besides the inaugural session, which was opened by the Minister of Public Health, there were ten working sessions and one extra (ad hoc) session. The coverage of the problems of leprosy in the country and in general was extensive, and the remarks cannot be noted here in detail. Emphasis was given to the subjects of epidemiology and control, treatment, including surgery, and rehabilitation, health education, and legislation. One feature may be noted particularly, however, because the instructions are archaic. In telling of laboratory practice in leprosy, Ch. Seric (director of the Postuer Institute of Addis Ababa) specified preparation of smears for bacteriologic examination of skin lesions by "crushing of biopsy specimens on the slide!" Nasal smears, he advised, should be made from cotton tampons. Incidentally, globi (called "globules") were defined as "masses of bacilli lined up in parallel." P. Charles, senior WHO tuberculosis adviser, told of a method (from a French source) of staining smears for acid-fast bacilli which is very reminiscent of Gabbet's method, except that Tween 80 or Triton is added to the surfactant; cold staining (a great advantage), is specified. The conference voted to retain the regular Ziehl-Neelsen method. The organization of this conference was largely due to Dr. K. F. Schaller, chief of the Leprosy Control Service, from whom (at the Princess Zoezehoer wer Memoriaal Hospital in Addis Ababa) copies of this report may doubtless be obtained on request.—H. W. W.


The author divides the history of leprosy in Britain into four periods. First, it was endemic in the Middle Ages, but the incidence then can only be guessed at. The second period covers about 400 years, when leprosy ceased to be endemic and slowly died out, probably in the 16th century; after the end of the 18th century any person with it probably acquired it abroad. In 1944 a small special hospital, The Homes of St. Giles, was opened near Chelmsford, Essex. The third phase comprises the 17 years between the Second World War and the passing of the Commonwealth Immigrants Act in 1962, during which period about a million Commonwealth immigrants had settled in Britain. The Ministry of Health made leprosy a notifiable disease and provided a special hospital, the Jordan Hospital, where the author works, under the National Health Service in September 1951. In the fourth and present phase there has been a check on immigration and the prohibition of entry of persons with signs of the disease. These measures will doubtless lead to a decrease of new cases, although as yet the decrease has been slight. There were 246 patients under treatment on December 31, 1961. Of the 169 patients dealt with by the author at the Jordan Hospital, 125 were inpatients and 44 were outpatients—although there is no compulsory segregation. The author thinks that all children should be treated as inpatients until rendered noncontagious. From the clinical aspect there are few reasons for admitting patients to a hospital, where a considerable proportion (19%) become fat and flabby from inactivity, and where some even develop hospital psychosis, which does not happen with outpatients. [The rest of this paper deals mostly with diagnosis and various phases of treatment. The search for better antileprosy drugs must continue, and it is said (without explanation) that success depends on the culture of the leprosy bacillus. | From abstract by J. R. Jones in Trop. Dis. Bull. 61 (1964) 151–153. |
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Haiti. [Leprosy in Haiti.] 

The mission identified leprosy cases in 5 of the Cape Verde Islands. In 3 of them
the prevalence was very low, but in 2—Santo Antão and Fogo—it was significant. Never-
theless, being islands, it should be possible to eradicate the disease in a short time. The
campaign as outlined would follow modern principles, including the use of persuasion
rather than force in the existing leproaria and clinics. [The actual incidence for Fogo, the
abstractor comments, was 18 per thousand and 4,467 persons were seen. In
Santo Antão 41 persons with leprosy were found among 5,823 examined, an incidence of
7 per 1,000. —[From abstract by J. Ross Innes in Trop. Dis. Bull. 41 (1964) 155.]

AZ, P. M. An epidemiological leprosy survey in Chingleput District of Madras State.

In 1962, an intensive leprosy survey was made in 381 villages of the Chingleput
District of Madras State in an area of 329 sq. miles the population of which was over
200,000; about 96% of the population came under survey. The prevalence rate
was found to be 21 per thousand, with a child rate of 17%, and an open-case rate of 35%.
These results are contrasted with those of previous surveys; the lepromatous rate has
been falling, and leprosy in the district is probably on the decline. Genetic susceptibility
is regarded as a determining factor in the acquisition of the disease. —[From abstract by

Dinis, O. Algunas informaçôes estatísticas sobre a comi na contra a lepra em Minas

The author reports some statistical data from the work carried out in Minas Gerais
in the period 1956 to 1960, and gives some comparisons with data from the 5 years before
that, 1951 to 1955. From registry at dispensaries and leproaria it appears that 4,415
patients were recorded in 1951-1955, an annual average of 905, but when the new
campaign was started (1956-1960), 7,167 patients were registered, an annual average of
1,471. The lepromatous rate in the first period was 69.5%, and 33.9% in the second.
The tuberculoid percentages were correspondingly small (17.8% and 22%), while in-
determinate leprosy almost doubled (32.7% to 34.7%). Although more trained staff is
needed in order to achieve the eradication of the disease, the mass of lepromatous infec-
tion is being dealt with now and the more bland forms of the disease are appearing. The
author comments that the system of physical isolation of the patient is obsolete, and is
replaced by the chemotherapy control of the reservoir of infection plus the use of
prophylactic vaccination of contacts, the work being carried out in the surroundings
proper to the patients without transporting them elsewhere with the accompanying
undesirable consequences. The total number of registered and otherwise known leprosy
patients in Brazil is probably 98,000. —[From abstract by J. Ross Innes in Trop. Dis.
Bull. 41 (1963) 155-156.]
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reactions in tuberculous leprosy are more violent than in Africa. Mullations of
the feet (etc.), wasting of the muscles of the hands and hand deformities, and facial
deformities are dreaded in all countries, but corrective surgery is given different
degree of attention in different communities.—[From abstract by J. Ross Innes in

In 1962 the authors surveyed a total population of 61,584 in 54 villages within a
10-mile radius of the treatment center at Z 잘못abad and found 895 cases, an incidence
of 15 per thousand; the lepromatous rate was 35%. The total number of healthy contacts
was 3,390. In 70% of the cases there was a definite history of contact, in most instances
a lepromatous contact. There appeared to be a lack of spread of the disease in families
where only nonlepromatous cases were found. It was also found that leprosy contracted
from home contact or early in life was of severe type. Routine treatment was by oral
DIIN, the dosage 300 to 400 mgm. a week, and hospital treatment was available for all
patients with reactions or trophic ulcers. The great majority showed improvement.—

MacLachlan, C. M. Biological implications of eradication and control. Ameri. Rev.

This article, the “keynote address” at a meeting of the Canadian Tuberculosis Asso-
ciation, has much that is applicable to leprosy. “Eradication” has been defined (Andrews
and Langmuir) as “the purposeful reduction of specific disease prevalence to the point
of continued absence of transmission within a specified area” (italics added); and “con-
trol” as the specific reduction to relatively low levels of occurrence, this being a step on
the way to eradication. Late in the discussion the author points out that certain of the
points regarding which knowledge is lacking are (1) “the chemical nature and properties
of the substance or substances in the tubercle bacillus that are responsible for its
pathogenesis,” and (2) “whether specific immunity in the usual sense of protective
antibodies applies in tuberculosis.” Any agent used for immunization, as BCG, “produces
a state of delayed hypersensitivity which obscures detection of a specific immunity that
might have developed congenitally.” There is no clear evidence that hypereosinophilia
itself is protective against initial infection, while there is evidence that it alters the
course of the disease—commonly to the patient’s detriment. The idea of eradication is
lamentable, but it is seldom realistic because it overlooks the realities of biology. In this
connection is cited (perhaps a little facetiously) the white-winged beetle in the south-
eastern United States, “which somehow gets eradicated year after year but is always
back the next year to be eradicated again.” “Dreams of eradication had best be postponed
until we know more than we do now.”—H. W. W.


The book presents various impressions from his recent tour of leprosy research centers,
the general impression being a variegated pattern of disease, which is often
Atypical in the individual patients who should not be forced into rigid classifications.
The disease becomes more serious in various respects as lepromatous cases preponderate.
Frequent examination of household contacts is still the most economic mode of case
finding. The whole community must be regarded as regularly exposed where the preval-
ence rate is over 20 per thousand. Climatic influence on the disease is hard to assess,
but in Calcutta there is a fourfold increase in the number of new cases seeking treatment
in the wet months (July to October). The lepromatous/tuberculoid ratio increases
notably from West Africa to Eastern Asia, from below 10% to over 80%. Early peripheral
neuritis, very common in early diagnosis, is seen more often in the East than in
Africa; and in the East lesions tend to have greater multiplicity, total volume, and
swellness. Other features of leprosy in the Far East compared with Africa: the border-
line variety is nearer to lepromatous; polyneuritis seems to involve more superficial
nerves; alopecia is almost unknown in Africa. Polyneuritis without skin lesions is a
well-recognized entity in India, but does not occur in Africa or the Far East. In India,
reactional episodes in tuberculous leprosy are more violent than in Africa. Mullations of
the feet (etc.), wasting of the muscles of the hands and hand deformities, and facial
deformities are dreaded in all countries, but corrective surgery is given different
degree of attention in different communities.—[From abstract by J. Ross Innes in
I TARABI ~I, from any of the following conditions: atrophy bulbi resulting from destruction of the cilary body and retina; corneal ulcers and keratitis, whether primary (brought about by invasion of the basailes), or secondary (due to anesthesia and exposure, and secondary infections); and iridocyclitis and plastic uveitis, which may bring about the serious complication of secondary glaucoma and cataracts. The eye is not rapidly involved, and the lesions take time to evolve; there is therefore sufficient time to minimize or entirely prevent ocular complications if the leprologist and ophthalmologist work together.


In summary, it is said, leprosy in its natural course will eventually invade the eye and cause blindness unless interrupted by therapy of the disease. Blindness may follow from any of the following conditions: atrophy bulbi resulting from destruction of the ciliary body and retina; corneal ulcers and keratitis, whether primary (brought about by invasion of the basailes), or secondary (due to anesthesia and exposure, and secondary infections); and iridocyclitis and plastic uveitis, which may bring about the serious complication of secondary glaucoma and cataracts. The eye is not rapidly involved, and the lesions take time to evolve; there is therefore sufficient time to minimize or entirely prevent ocular complications if the leprologist and ophthalmologist work together.


This is a report of a case, presented at a meeting, which presents a problem in classification. There were multiple achronic macules without infiltration or elevation, and for that condition the diagnosis was invertebrate (although there was slight loss of the eyebrows); and a vast, bacteriologically-negative bulla on the right leg, which suggested leprosy. There was extensive anesthesia, moderate enlargement of the ulnar, muscular atrophy of the hands, and a perforating ulcer of the right foot, and those changes were regarded as of the tuberculoid type. The nasal mucus presented lepromatous rhinitis, with specific ("Virchow cell") structure and abundant bacilli. The reactions to lepromin were negative. No conclusions are offered. It might be interesting to see what type diagnosis or diagnoses would be arrive at by a poll of practicing leprologists.—H. W. W.


Both of the cases reported were only 1 year old when seen, recognized because they were accompanied by lepromatosous parents. One had "some rare" new papules on the back; the other had 5 small, recently-appeared papules on the body. Both were Mitsuda positive, but only one gave the early Fernandez reaction. Both were put under DDS treatment, and the lesions in the first case had disappeared in about 8 months; in the second case many tens of new tubercles, 1-4 mm in diameter, had appeared in the next year.

—H. W. W.


Tuberculoid leprosy often resembles certain forms of hyperergic tuberculosis, so
that it is not always possible to make a differential diagnosis exclusively by means of histopathologic examination. This confusion is not frequent in lepromatous leprosy, although it sometimes happens as in the two cases presented. One had lupus lesions resembling lupus vulgaris, and the other had lesions of the follicularis type, similar to papulonecrotic tuberculid. Photographs demonstrate the conditions described.

—F. CONTRERAS


In the Island of Martinique, during a period of 15 years, the author has detected 5 cases of niffin in individuals suffering from leprosy. The affection was limited to the fingers and toes inoculated by the ulcers and the perones communis, the nerves most often involved in leprosy infection. The frequency is greater in toes than in fingers. The leprosy etiology of niffin in these cases, although it is not the only possible causative factor, should not however be eliminated from consideration...[From author's summary.]

Jacquineres, K. D. L. and Garcés, E. T. Incidencia de fenómenos neurologicos en la lepra diperútica. [Incidence of neurologic phenomena in dimorphous leprosy.]

Leprologia 8 (1963) 48-49.

Attention is called to the low incidence of neurologic phenomena leading to disability among patients with dimorphous [borderline] leprosy. In a series of 54 such cases, with an average follow-up of 4 years, only 5.3% of them developed sequelae of this kind.

—Author's Abstract


Among other signs, epistaxis was found in 43.7% of lepromatous patients in the Sanatorio Sumer, where numerous LL cases are under treatment. Bacilli are assumed to reach the nasal mucosa by the blood stream, initial lesions being near the vascular mucosa of Kissei Bach in the mucous covering the cartilagenous septum. Perforations of the septum were found in 36.7% of the cases—E. D. L. JACQUELINES


The author classes the infirmities due to leprosy according to their origin: loss of sensation, loss of muscle function, or baccillary invasion. He indicates many preventive measures, defines the role of the patient himself in the care of his condition, and emphasizes the necessity of regular medical control. He concludes that the greater part of the infirmities due to leprosy can be either prevented or corrected... [From author's summary, supplied by N. Rozevart.]


This is a report of a study of 187 cases of leprosy with respect to deformities present and the resulting infirmities. The proportion of patients affected in various degrees was unexpectedly high, especially among the men, the percentages being 35.2 and 18.5 respectively. All but a few of these cases were lepromatous; a tabulation shows none found in 32 tuberculoid cases. A study of refluxes of the base of the tongue and the larynx, and the vomiting reflex, showed abolition [of one or more] in over 80% of the cases...[In part from author's summary.]


In recent years a substantial number of leprosy patients have been rehabilitated to society from hospitals, due to the fact that it is now possible to arrest the disease and then to give orthopedic treatment for disturbances of function and malformations of the extremities. Social rehabilitation, however, involves many difficulties peculiar to this
disease. Experience at the Kikuchi Kröen National Leprosarium is reported. In regard to the number of patients treated, 168 were rehabilitated to society between the years 1956 and 1961, especially after 1959. The disfigurements and malformations of the extremities begin with paralysis and follow the pathologic changes of leprosy. Physical therapy must be started as soon as possible, for prevention and treatment of these conditions. If that does not give satisfactory results, surgical procedures must be used, as for example tendon-transfer, hanger amputation, and so on. It is very important not only to know the condition of muscles, bones, and joints, but also to understand the daily living requirements of the individual patient. Improvement of the function of the hand is the most important in making daily life easier. Roentgenograms of amputated legs are required for the application of prostheses, because of resorption, atrophy and addition of bone. The fixed drop-tip due to paralysis of the facial nerve may be treated surgically; several operations are mentioned. The personality of the patient is very important for social recovery in leprosy, as is the case with cripples generally. The patient is very different in personality from the healthy person, in regard to the somatic inferiority complex. He may have that complex even without malformation of the extremities; he may have a deep inferiority complex with cosmetic difficulties in the face; but child patients have an somatic inferiority complex in spite of severe disfigurement of extremities. It is concluded that the moral condition of the patient which impedes social recovery must be treated not only somatically, but psychologically, and society must be oriented to accept these persons...[From author's summary.]


The author has treated 105 new cases of leprosy, 29 lepromatous, and 76 tuberculous or indeterminate, with sulfamethoxypridazine for periods ranging from 1 to 3 years. Some of them were treated by the oral route (750 mg., every 2 days), and the others intramuscularly (4 g. of the acetyl form of the drug every 15 days). The results were found extremely interesting. Of the tuberculous forms, 98.4% were cured in less than two years. Of the lepromatous forms, 63.2% were apparently cured in less than 3 years, but the lepromin reactions remained negative. These results, compared with those in 50 control cases treated with Dihydroepinephrine (DHE), lead the author to recommend sulfamethoxypridazine for the treatment of leprosy. [But a shorter designation, easier to remember and to pronounce, is needed—as for example, SMP.—H. W. W. ]...[From author's summary, supplied by N. Bourenert.]


Rifampycine S.V. (one of the Rifampycin group of antibiotics developed by Lepetit, in Italy) was tried out in the preliminary tests reported on an avoidably small scale, 3 untreated cases and 2 that had long been treated with various other drugs. Twice-daily intramuscular injections of 500 mg. were given daily except Sundays. Simultaneous administration of the anti-inflammation drug Nivaquine permitted the inclusion of 2 new cases of reactive neural leprosy. Rifampycine caused improvement of the leprosy lesions, but troubles at the site of injection necessitated suspension of the treatment in most of the cases. Details of the 5 cases treated are given...—H. W. W.


Previous investigations of the serum proteins, some of them by electrophoresis, have been extended by estimations of the various fractions of the proteins. Agar-gel electrophoresis was employed; the optical density of the separate protein fractions, stained by amido-black 18B, was determined by an electronic densitometer, and the areas were
measured by planimetry. This technic was applied to 80 samples from patients of various types of leprosy, with controls of normal persons. Marked and significant differences were found between the lepromatous and nonlepromatous types. In the lepromatous type the total proteins and the γ-globulins levels were higher, and the albumin values were lower. The total protein values are within the normal range in early cases, but rise significantly with increased severity of the disease. There is reversal of the A/G ratio, to below 1.9 in advanced stages. No variations in the total protein or the γ-globulin values were found in nonlepromatous cases.—H. W. W.


Conventional electrophoresis allows the evaluation of the increase of the γ-globulins as a whole. Immunelectrophoresis shows that this increase is due to a simultaneous increase of β,M and γ-globulins. However, the three conventional forms of the disease differ significantly in this respect; in the lepromatous and indeterminate forms the increase of β,M remains moderate, while in the tuberuloid forms the reaction is more heterogeneous and massive increase of β,M may be observed, similar to what has been reported in other tropical affections. The β,M globulins of these various cases are immunologically identical. [From authors' summary.]


The results obtained with the various biological tests are rather contradictory. The demonstration of the C-reactive protein, sometimes associated with the Waaler-Rose reaction and the VSG seems to be the most reliable method for the study of inflammatory conditions in patients suffering from these recurrent reactions and who must be submitted to a long term corticotherapy. This demonstration will allow one to follow the course of the disease and to determine the best antibacterial and anti-inflammatory therapy.

—[From authors' summary.]


This report is of a study based on a study of formalin-fixed biopsy specimens from 30 active, untreated cases diagnosed as borderline. "To sum up," it is stated, "it may be said that tissue changes in borderline lesions were extremely variable and not always in conformity with clinical features and lepromin test." The association of lepromatous and tuberculoid elements with varying proportions of bacilli showed that the host-parasite relationship was in an extremely unstable state. Development of tuberculoid histology in subsequent biopsy specimens showed that the unstable state can be brought under control with the help of specific drugs. On the contrary, appearance of vacuolation (hydropic degeneration) in the giant cells showed that the unstable condition leads to lepromatous changes, probably through repeated reactions or due to a low immunologic status of the individual host. Borderline cases, clinically as well as histologically, should not be classed with reactional tuberculoid cases, for these show different clinical as well as histologic features.—H. W. W.


As a continuation of the study reported in THE JOURNAL, 28 (1960) 233-238, of the retention of methylene blue injected intradermally by lepromatous but not tuberculoid lesions, the authors tried out this test on several skin diseases (such as deep mycoses, leishmaniasis, and treponematoses) with negative results. Then, on the hypothesis that it was an intracellular lipid that retained the color, the method was tried out on a case
of disseminated hypercholesterolemia xanthomatosus. The dosage was 5 cc. of the 1% solution, increased later to 18 cc. When 79 cc. had been given a blue color appeared around the xanthomatosus lesions, its intensity increasing and its extent spreading centrifugally as the injections were continued, to a total of 110 cc. It is concluded that leprosy and xanthoma cells retain the color through the presence of similar lipid factors.

W. W. H.


In a search for Miescher’s granuloma of ordinary erythema nodosum in erythema nodosum leprosum, 58 biopsy specimens from recent lesions were carefully examined, but in none of them was it found. The author points out that, after the early positive reports of Portugal and of Orlande, other workers have repeatedly failed to find the so-called radial granulomas in recent lesions of leprosy. On the other hand, even in classical erythema nodosum there is not yet a general agreement regarding the frequency, histogenesis and significance of these structures. It is concluded, therefore, that the few positive findings reported must not be over-emphasized as evidence of identity between the two conditions.—[From author’s summary.]


A case is reported of basal cell epiteliosis of the dorsum of the nose that was first treated by radiotherapy but relapsed after a few months. The tumor was then extirpated on base, including the cartilages, and the defect was covered with two flaps from the upper part of the nose. Cure was effected, with excellent esthetic result.—F. Contreras


Report of another case of epiteliosis, the lesion removed by the electric scalpel, with cure and excellent esthetic results.—F. Contreras


In a study of sera from 50 cases of leprosy (type not stated), thyroglobulin antibodies were found in 21 (42%) in an agglutination test with thyroglobulin-coated latex, and in 19 (43%) of 41 sera tested for agglutination with tanned red blood-cells. There was no obvious difference in the presence of these antibodies and the age of the patients or the duration of disease; there was a correlation between their presence and positive rheumatoid-like serum reactions. It is suggested that hypersensitivity of the antibody-forming system may be responsible for positive autoimmune-like reactions in leprosy.—[From authors’ summary, in Trept. Dia. Bull. 41 (1964) 357.]


The authors have employed in the study of leprosy a method of serum agglutination of particles of a polystyrène latex charged with histamine, which permits the demonstration, in the y-globulins, of an antihistamine factor lacking in normal allergy. Studying the sera from 43 cases (30 lepromatosus, 12 tuberculoid, and 3 miscellaneous), they found no clear correlation between the reaction and the type of leprosy. Nor was there any correlation with the degree of evolution of the disease or with reational outbreaks. This method, therefore, seems not useful in leprosy.—N. Bouchard

Bruck, A. A. and Hasenclever, H. F. The influence of leprosy on delayed-type skin reactions and serum agglutination titers to Candida albicans. A comparative

These skin tests were made with a 1:100 dilution of a Seitz-filtered, 21-day-old culture of *Caulobacter athanas*, to which 0.45% phenol had been added; the readings were made 48 hours after intradermal injection of 0.1 cc. The percentages of positive reactors to this antigen were 14.5% of 116 lepromatosus cases and 10.4% of 77 tuberculoids; of 119 venereal disease patients used for controls, 40.7% were positive. The agglutinin titers of the sera were determined with a suspension of this fungus. The percentages of patients with titers greater than 1:20 were 38.9% of 101 lepromatosus and 11.5% of 77 tuberculoid cases; of 192 control patients, 14.1% gave such titers. The results of the agglutination test suggest that in lepromatosus leprosy, although not in tuberculoid leprosy, there is hyperreactivity. In order to see whether this condition extended to other tubercles, the titers of the α and β agglutinins of the blood groups were determined. In Group A patients with lepromatosus leprosy the geometric mean titer for β agglutinin was 241.6, compared with 178.4 in the tuberculoid patients and 138.6 in the controls; the titer for α agglutinin in the patients of Group B were 167.2, 141.7 and 97.8, respectively. No difference was seen in α and β agglutinin titers in the Group O patients. The authors suggest that in patients with leprosy there is either a direct suppression of delayed-type skin reactions, or a skin or constitutional change that interferes with the skin reaction, and that in lepromatosus leprosy there is a tendency to serologic hyperreactivity.—[From abstract by S. R. M. Bushby in *Trop. Dis. Bull.* 41 (1964) 49-50.]


This study, made in villages in the region of Bamako, has shown that contacts with tuberculosis cannot alone be held responsible for the high proportion of positive Mitsuda reactions obtained there (79.7% of the 885 persons tested). Apart from the possible role of paratubercle bacilli, the role of the Hansen bacillus must be great, for in view of the reactivity (11.17 per mile) all of the healthy subjects may be considered as contacts. This very important proportion of Mitsuda positives is probably the reason for the very low percentage of lepromatosus cases (8.12%) in West Africa.—N. ROBERTS


Among tuberculoid-negative children 0 to 34 months of age, the intensity of the lepromino reaction was significantly greater in those who had previously received BCG than in those who had not received it. The intensity of the reactions after BCG did not differ significantly whether the vaccine had been administered intradermally or orally. In the non-BCG children there was no significant difference as to intensity of the lepromino reaction among those who were previously injected with lepromin—3 times at intervals of 1 month—and those of the control group. There was no significant sex difference in intensity of reaction. Children receiving BCG intradermally did not show any significant correlation between the intensity of reactivity and subsequent age, but those who had received oral BCG showed a significant decrease in reactivity with age. Children who had previously been tested with lepromin, and were given oral BCG later, when 36-43 months old, gave Mitsuda reactions whose intensity did not significantly depend on the previous reactivity or on treatment received; once more there was a highly significant negative correlation between the intensity of reaction and age.—[From authors’ conclusions.]

MIRANDA, R. N., GROOSSEN, L. P. E. and SUCHER, W. A. Lepromino-reação comparada com injeção de extrato de pele normal. [The lepromino reaction compared with

Comparative tests were made of intradermal reactions to lepromin and to a suspension of normal skin prepared by the Mitsuda-Hayashi method, in 43 leprosy patients of various types and 6 nonleprosy persons. The results of the tests were observed after 48 hours and 28 days. In no instance did the normal skin suspension cause an early reaction of the Fernandez type. However, after 28 days, those injections resulted in Mitsuda-like reactions in 91% of the persons who were positive to lepromin, with about 40% of the intensity of the lepromin reactions. Histologic examination of the reaction lesions in one nonleprosy person taken after 24 hours, revealed tuberculoid granulomas in both the lepromin lesion and in that produced by the normal skin suspension.


This brief note results from a search for a substitute for lepromin, since sulfone treatment has rendered suitable material difficult to obtain. It has been shown (Abc) that there are two types of antigenic lipids in lepromin: (a) a phospholipid similar in action to a 1:1 mixture of cardiolipin and lecithin, and (b) a lipopolyene (lipidic) whose polyene part has a toxic effect in common with tuberculoid polysaccharide. The authors used a bovine tuberculosis culture to prepare an antigen by the Dharmendra technic, the tests with which in 316 cases were controlled with Dharmendra's lepromin antigen. Both gave negative reactions in 129 lepromatous, 13 borderline, and 18 nonleprosy patients, while the tuberculosis antigen gave positive reactions in all of the 138 tuberculoid cases—of which 17 were negative to the Dharmendra antigen—and in all of 12 indeterminate cases in all of which Dharmendra was negative. Further study is in progress.--H. W. W.


The total proteic lepromin LPT of Olmos Castro and Arcuri is an ideal antigen to test for hypersensitivity in leprosy because it is not sensitizing, is easy to prepare, and keeps its antigenic power for a long time. Its similarity to tuberculoid makes it useful for comparative immunoserologic experiments between leprosy and tuberculosis. With this antigen the index of positivity of the early (Fernandez) reaction is high in people who live in contact with positive cases, but very low in people who do not live with leprosy patients, in people who live together with negative cases and also in the lepromatous, indeterminate and dimorphous [borderline] types of leprosy. These facts show the high specificity of LPT. The percentage of coincidences which have been found between the Mantoux and the Fernandez reactions are low as compared with the results of other investigators working with similar human groups but with different antigens. This fact is held not to contradict the hypothesis of cross-reaction between M. leprae and M. tuberculosis; it can be explained by taking into account the fact that group hypersensitivity gradually disappears, and then the tuberculoid-positive cases that were sensitized a long time before now react to the proteic antigens in a specific nonsensitized form and not in a group-specific form.—E. D. L. Jacques

Monestereux, E. Qu'en est le problème de l'immunité antileprous? Que peut-on attendre pratiquement de nos connaissances actuelles en immunologie léprous? [Wherein is the problem of antileprosy immunity? What can one expect practically of our present knowledge of the immunity of leprosy?] Revue Med. 42 (1963) 525-526.

The author raises the problem of immunity in leprosy in the light of our knowledge of immunity in tuberculosis, with reference to the antigenic relationship of the two bacilli. He establishes a parallel between the reaction of Fernandez and the tuberculoid
reaction, and also between the Mitsuda reaction and the Koch phenomenon. On review of the technical modifications proposed to augment the sensitivity and specificity of lepromin, he concludes that the standard Mitsuda-Hiyoshi preparation is the best. He believes that the tissue elements contained in lepromin undoubtedly play a role in the reaction, as it is known and interpreted, and that it would be a mistake to try to eliminate them. The rare incidents "of excess" due to whole lepromin, seem to him much less troublesome than the faults observed with the purified lepromins. He emphasizes the practical interest of the lepromin reaction in the diagnosis of the forms of leprosy, the indication of the duration of treatment, and the surveillance of apparently cured cases. Finally, he reviews the role and behavior of BCG vaccination in leprosy prophylaxis.

-N. BOUCARY


An attempt was made, with BCG to make positive negative reactions, or to enhance weakly positive reactions in dimorphous (borderline) cases. The results were sufficiently interesting to encourage a more complete experiment, but the small number of patients (13) in the experiment does not permit definite conclusions. (Two years after this experiment only 1 case maintained definite positivity.)—Author's Abstract


Examination by the electron microscope shows that the internal structure of M. leprae is closely similar to that of other mycobacteria. There is, first, a cell membrane surrounding the entire bacillus, and inside that a double-layered plasma membrane which, when it penetrates the cytoplasm, constitutes the intracytoplasmic membrane apparatus. In the cytoplasm are also found the nuclear apparatus and the intracytoplasmic structures. These structures are seen in the intact bacilli; in the degenerating individuals the cytoplasm is reticulated and the various constituents can no longer be distinguished. The cell membrane, however, is nearly always unchanged. Intact bacilli are seen especially in borderline leprosy, where the bacterial activity and the cellular reactivity are perhaps balanced.—N. BOUCARY


This publication, a separately paginated supplement entitled Archivo Cubano, 1963, includes (in Spanish) an article the greater part of which was presented at the VIIIth International Congress of Microbiology, held in Montreal in 1962. The following is from the English version of the author's summary. Based on structures observed in various leprosy lesions, it has been concluded that the growth of M. leprae is intimately related to the type of the disease. In the lepromatous type, the bacilli multiply very rapidly, with the formation of globi, because of the absence of tissue reaction. This bacterial growth may be identical to that of any other bacteria able to grow in culture media. That is, one can see various growth phases of M. leprae: the rapid growth stage probably corresponding to the exponential phase, the stationary stage, and the declining stage. It seems that bacterial death in lepromas is not due to any tissue inhibitor, but rather to lack of nutrient media in the host cells. In the tuberculoïd type, the bacilli only appear in the initial stage of the reaction. They show a tendency to multiply, but then undergo degeneration caused by the strong tissue reaction. In other words, bacterial death in tuberculoïd leprosy lesions may result from some bacterial substance present in the host cells. In the borderline group the bacilli grow very slowly in host cells. The bacterial growth and the tissue inhibitor in borderline lesions may be balanced for some time. Once the balance ceases the bacterial growth may be deviated to that of the lepromatous or the tuberculoïd type.—H. W. W.

A bacteriological study was made of 4 essentially similar strains of mycobacteria isolated from patients with lepromatous leprosy by culture on conventional media, and a description of their morphologic, cultural and metabolic characteristics is given. Optimum growth was obtained on Dubos fluid medium at 37°C. The organisms were acid-fast, grew in mice, rats, guinea-pigs, rabbits and pigeons. Two strains tested against drugs and antibiotics proved to be resistant to streptomycin and isoniazid. Antigens prepared from these 2 resistant strains were tested in various ways against 7 sera from patients with lepromatous leprosy; the results were inconclusive.—[From abstract by D. S. Ridley in Temp. Dis. Bull. 61 (1961) 156.]


The authors have employed the technique described by Nerurkar and Khaskar: grinding of a piece of the cutaneous lesion, concentration with ether, and examination by fluorescence microscopy after coloring with auramine O. They believe that staining by a mixture of auramine and rhodamine is clearly superior to that with auramine alone. This technique, although delicate, has permitted the demonstration of the leprosy bacillus in tuberculous lesions which, with the usual technique, seemed to confirm its classical absence.—N. BOURCART


An attempt at inoculation of M. lepra, obtained from lepromas and free of tissue debris, into the root of growing Phaseolus vulgaris was made. A seed of that vegetable was included in a cotton bed set with sterile distilled water in a sterile tube. As the roots were growing, the inoculations were made. Thirteen days after the inoculations, turbidity of the water was noted. Examination of the water after Ziehl-Neelsen staining showed acid-fast cells and short acid-fast bacilli, cyamella granules, and ellipsoid bacteria with blue borders and red centers. These bacteria were similar to Bacillus propertianus, a new germ found by the authors in leprosy patients (see the next abstract). No conclusion is yet given.—E. D. L. JOCQUEPRES


A new bacillus, Bacillus propertianus, was found in 50 leprosy cases (47 lepromatous, 2 tuberculoid, and 1 indeterminate). The same bacillus was detected in all of the leprosy contacts studied. It was not found in contact persons with other dermatoses. The possibility that this bacillus may be a predecessor of M. leprae, or an initial stage in its development, is being studied.—E. D. L. JOCQUEPRES


In an earlier paper the authors showed that Mycobacterium leprae, when incubated in a modified Dubos medium containing 10% sucrose, increased in length but did not divide. In the present paper they report that the rate of elongation could be accelerated by increasing the sucrose acids 6 times and the asparagine 25 times, and by reducing the sucrose to 7.4%. The pH value of the medium was critical. Maximum elongation, in 4 p. and best survival, occurred around pH 6.2; virtually no elongation and very poor survival occurred at pH 5.0 and pH 7.2. Sources of carbon other than sucrose were apparently of no advantage; in the absence of sucrose elongation occurred less regularly and was diminished; the omission of asparagine and sucrose acids also
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reduced the lengthening. Electron micrographs showed that elongation was accompanied by an increase in the weight of the bacillus; an increase in length from 2.3 μ to 4.0 μ was accompanied by an increase in weight from 5.8 × 10⁻¹¹ mg to 12.0 × 10⁻¹¹ mg during 14 days' incubation. Exposure of the bacillus to alkali decreased their ability to lengthen; exposure to acid was less harmful. No elongation occurred at 42°C or 24°C and it was slightly less at 34°C than at 37°C. The results of experiments designed to eliminate tissue constituents from the inoculum suggested that elongation was not dependent on tissue residues. Isolated in concentrations of 1 μg per cc, suppressed the elongation of normal bacilli, but not those derived from mice which had been treated with the drug; for the latter 25 μg per cc was necessary to inhibit lengthening. Evidence of multiplication was obtained by direct counts of the cultures, but the authors are convinced that elongation is an active process similar to that seen with bacilli in the tissues of animals soon after inoculation.—[From abstract by S. R. M. Bushby in Trop. Dis. Bull. 43 (1964) 51-52.]


Although it is difficult to determine the generation time required for proliferation of the murine leprosy bacillus because of the influence of complex inhibitory factors and growth factors of the host, it is possible to calculate a rough estimate of the number of days. The authors inoculated mice and rats intratesticularly with a constant number of murine bacilli, resected and emulsified the testes after a set interval, and counted the number of organisms in smears, obtaining the following results. In the mouse testes 7.7 days were required for 1 generation, and 4-5.5 days in the rat.

—[From authors' summary.]

BOOK REVIEW


This unusual book, which describes the various stages of development of the institution concerned from its humble beginning in 1862 as the Army Medical Museum, in a single room in the then office of the Surgeon General and with fort years a special appropriation of only $5,000, to (after two other moves) the building in which Ford's Theatre had been located until the assassination of President Lincoln, and finally in 1955 (after 67 years in the first building of its own), to the magnificent, bomb-resistant building it now occupies in the Walter Reed Medical Center, might be expected to be another dust-drug government report. It is, however, quite otherwise. Written in free style, it deals with the many personalities concerned, at times in anecdotal fashion, and contains much historical material of general interest. One will find no special information about leprosy here, but this review is offered because of the world-wide influence of the Institute.

It is difficult to realize how "under-developed" medicine was at the time when, on May 1, 1862, Surgeons J. H. Brinton and J. J. Woodward