CURRENT LITERATURE

It is intended that the current literature shall 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.

LSTMED F. Vinte jasmine dos del Centro Dermatologico Puebla. [Twenty-five years of the Puebla Dermatology Center.] Dermatologia (Mexico) 4 (1962) 237-245.

The 25-year history of the Centro Dermatologico Puebla is reviewed. The accomplishments of the institution from its founding in 1937 as an antileprosy outpatient clinic to the present time are briefly discussed, especially its role in the training of dermatoleprologists, the treatment of patients with the sulfones, the formation of the Mexican Association for Action Against Leprosy, the establishment of dermatologic consultation facilities, and the control of patients—ideas which originated with the Centro Puebla and then spread beyond its walls to be followed by other institutions in Mexico as well as abroad.—[From author's summary.]


Starting from the traditional concept established by Hansen that leprosy is a disease spread through contagion within the family, the author suggests a prophylactic system in accordance with irrefutable epidemiologic arguments and with an ecologic basis in the field of preventive medicine. The features of this system are as follows: (a) periodic inspection of domestic foci by mobile sanitary units; (b) intensive treatment of the indeterminate cases, so as to avoid their development toward the lepromatous type and to break the cycle of contagion; (c) higher efficiency and more facilities for sulfone therapy when lepromatous is diagnosed in its initial evolution, avoiding the development of highly infective open lesions through intensive treatment; (d) abandonment of compulsory isolation, which is extremely expensive and brings about the hiding of infective cases; (e) the existing sanitary should be maintained with an open door policy, to assist advanced cases (selective isolation advocated by the Tokyo Congress in 1956); (f) transformation of preventive into institutions for the assistance and education of needy minors, so as to protect from the traditional stigmas the children of leprosy patients; (g) integration of leprosy prophylaxis within the Public Health Service, in consequence of which specific standards would be raised and the stigmas and anathemas against leprosy and tuberculosis would be forgotten.—[From author's summary.]


Report of a case of major tuberculoid leprosy with neuritis of the forearm and
mucosal lesions and edema of the right hand. There was a similar lesion in the left malar region. The case was treated with sulfamethoxypyridine for 15 days, with good results. — [From authors' summary.]


Report of a preputial localization of the disease. A predominant lepromatous aspect of the lesion, as well as deep tuberculoid and auxiliary structures, have been observed. In such a form of leprosy [borderline], sulfone treatment induced a reaction episode, then a tuberculoid regression. — [From authors' summary.]


In certain cases of leprosy there occurs, after a reactional episode, a transformation of the lepromatous type to the tuberculoid type. This transformation may be either early or delayed. The delayed reactional tuberculoid transformation seems to be a tuberculoid relapse rather than an actual transformation. — [From authors' summary.]

[See "reversal reaction," The Journal 23 (1955) 443-446 (editorial). —Editor.]


Reporting 11 cases of phlyctenular leprosy, the authors compare the ulcerative forms of erythema nodosum leprosum with Lucio's phenomenon. The former is observed in ENL nodules or in the elements of erythema multiforme; it includes many elements; the eruptive sites are the face and limbs; it is painful, with deep ulcerations; it leaves fibrous and radiating scars; and it shows a hypodermal panvaccularity. The bacilli are of deep-located origin, degenerating, sometimes absent. The Médina-Ramirez reaction is negative. In Lucio's phenomenon the lesion, rare at the beginning, appears in rosaceous macules; the face remains unaffected; pain is moderate; ulcerations are skin-deep; scars are flattened, atrophic, with pigmented borders. Bacilli are very numerous and form clusters. Necrosis of the superficial and terminal vessels is observed, and the Médina-Ramirez reaction is positive. — [From authors' summary.]


The initial malar eruptions, according to their clinical picture, are infrequently found, difficult to attribute to a definitive type of the disease, all the more that in many cases with indeterminate leprosy normal sensitivity of the mucosa persists for a long period of time. In patients with lepromatous leprosy there is a diffuse superficial infiltration of the face, and manifestations on the trunk and extremities are present with the discolourations, trophic disorders, atrophies, and scars. — N. A. Torstein


Fascicular and fibrillar twitchings in leprosy are explained by lesions of the anterior horn and spinal cord (spinal, trigeminal) in the case of advanced disease. In leprosy patients they frequently occur in the group of facial muscles, which are
already atrophied and give reactions of degeneration. Their head excitation is lowered; mechanical irritation gives no such twitches. All kinds of superficial skin sensations on these sites are lowered, as well as vascular secretory reactions. In spinal and truncal glossis (syringomyelia and bulboamyelia), skin areas covering these muscles have a partial type of sensory disturbance, with preserved tactile sense but diminished pain and temperature senses, with segmentary localization. In the case of syringomyelia, they develop after manifestations of segmentary disorders of sensation. In lateral atrophie sclerosis, fibrillar twitches occur not only in atrophied muscles but perhaps in normal ones. These muscles are easily stimulated mechanically, by striking with the rubber hammer, and respond with fibrillar twitches. Sensory functions are not disturbed in this disease, but there are symptoms of spinal and truncal automatisms.—N. A. Tomsky


While conducting a series of psychiatric investigations on the Ainu-in leprosarium, a patient was seen who had religious delusions based on auditory hallucinations that had weakened him from his sleep every night for the last five years. The patient, however, was well adapted to the life in the leprosm community, and was liked and respected by all around him as a “peace but noble personality.” His psychotic symptoms had first appeared before his entrance to the leprosarium, after a few years spent with his family in continuous and ever-growing anxiety due to a relapse of his illness which seemed to deprive him of all hope and all his raison d’être. The sudden appearance of his mystical hallucinations saved him from despair and suicide by giving him a new world-view and a new mission in life, and led him to an altruistic way of life that seemed almost superhuman in the eyes of his fellow patients. Nevertheless, these “voices” also led him to refuse obstinately almost all medical treatment and food, a fact which was virtually the cause of his death, which occurred a little after the author’s interview. The life of this patient was studied here mainly from the phenomenologic-antropologic point of view as a striking example of one of the ways in which man may earnout a limit-situation by changing his mode of existence, an example which seems to reveal to us “the sources of human potentialities,” as K. Jaspers says.—[From author’s summary.]


In a clinical trial of Etilul in the treatment of 36 lepromatous patients, the drug was given alone or in combination with dapson over a period of 2 years. It was concluded that: (1) During the first 6 months Etilul is as effective as, if not more effective than, dapson [D98] in achieving bacillus clearance and changes in bacillus morphol- ogy. (2) If Etilul is withdrawn for 6 months and then given by itself for a second 6 months, signs of bacterial regeneration are seen. This was taken as evidence that the bacteria had become resistant to Etilul. (3) In new cases, combined Etilul and dapson produced a slight acceleration (of doubtful statistical significance) in bacillus clearance during the first 6 months. By the end of 2 years, however, the bacteriologic improve- ment was no greater than could be achieved by dapson alone. (4) Etilul accelerated bacillus clearance in patients who had received dapson for 3 years or more, and increased the proportion of nonviable bacilli in smear samples during the first 6 months. (5) When given alone, Etilul does not provoke or aggravate ENL, and does not evoke the ache and pains which often accompany dapson treatment. (6) When given in conjunction with dapson, Etilul greatly reduces or abolishes the unpleasant side-effects of the dapson. The incidence of ENL is little reduced, but the lesions are less
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produces less painful, and more transient than when dapsone is given alone. The course of this protective action is not known. (7) Eti sul is well tolerated. Side-effects consist of heat of tuberculous patients. The authors used it in treatment of 24 previously untreated leprosy patients. The authors used it in treatment of 24 previously untreated leprosy patients (11 lepromatous, 11 tuberculoid, and 2 indeterminate). The treatment course was 36 weeks; first week, 0.1 gm. 3 times daily; second week, 0.2 gm. 3 times daily; later, 0.3 gm. daily. Beginning from the 21st week, provided tolerance is
good, the maximum daily dose can be increased to 1.5 gm. for individual persons. Regression of the lesions was observed in 14–21 weeks in the lepromatous patients. In 8 of them, regressive phenomena with degeneration of the bacilli were ascertained in the histologic picture. The bacillus index decreased considerably, becoming negative in 3 cases. KN1 emersions occurred in 3 cases. Of the tuberculous cases, the majority presented fairly rapid improvement, sometimes in 2–3 weeks after beginning treatment. Towards the end of the course, in 6 patients the tuberculous histology had changed to lymphocytic infiltration. In three patients, weakly positive Mitsuda reactions became positive. Considerable regression of macular lesions in patients with indeterminate leprosy was also observed. Some of the patients treated with Etoxyde had signs of hyper-chronic anemia and decrease in the number of white blood cells.—N. A. Torsney


After a review of the literature on dermatitis in patients treated with the sulfones, the authors describe four cases of contact dermatitis in medical workers who made intramuscular injections of 50% solution of [Sulphathiazole] to leprosy patients. In none did the dermatitis make its appearance until after 2–3 weeks or a few months of exposure. It began with redness and edema of the skin of the wrists and the flexor surfaces of the forearms, with itching and burning; on the next day there were lesions on the face, and conjunctivitis developed. Against this background there appeared small papules and vesicles, with crumbling. There was rapid spreading of lesions on the face, the upper and lower extremities, beginning on the latter from the feet and reaching the knees. There were painful fissures in the interdigital folds of the fingers. Slowly, lesion areas ceased to be infiltrated and the skin pattern to be sharply defined. After discontinuance of contact with the drug, and under the influence of desensitizing therapy and topical symptomatic treatment, all symptoms of dermatitis accompanied with desquamation vanished without leaving any trace in 1–2 weeks. Resumption of work in the procedures’ room gave appearance to the same dermatitis in 22 days. Epicutaneous tests with 50% solution of Sulphathiazole gave intense erythema formation of vesicles, edema and itching.—N. A. Torsney


An account is given of clinical trials in leprosy of a powder obtained from an indigenous Indian plant, Alectra parviflora. It was given in tablet form to 10 patients of both types, lepromatous and tuberculoid, the dose being 4 gm. daily. Larger doses were not tolerated. The only side effect was loss of bowel motions. The tuberculoid patients were relieved in 6 months, areas of anesthetic diminishing and the nerves becoming less thickened. In lepromatous patients, bacilli became reduced from 1+ to 1+ within 6 months. Further investigation is being made. The plant is described as a parasite growing on the roots of Tocos angustiata.—[From abstract by E. Mair in Trps. Dis. Bull. 59 (1962) 1076–1077.]


The authors employ epineurectomy of the posterior tibial nerve as a basic means for the treatment of the plantar ulcers of leprosy, and to moderate the recovery they advise...
extending simultaneously the operation to the lateral popliteal nerve, which may also be affected. They have realized four interventions of this kind, two of them being complemented at the same time by epineurectomy of the lateral and the median branches of the sciatic nerve. The results in the first of these cases were not uncomplicated, but those in the other three cases—in which there was no other kind of treatment, not even absolute rest—there was rapid cure of the planar ulcer, followed by a return of sensation, improvement of the blood supply, and better walking conditions. These satisfactory results have persisted for more than 6 months. In performing the operation the nerve is reached through a J-shaped incision behind the malleolar furrow, following a line drawn between it and the Achilles tendon. This incision is 15-16 cm. long, beginning at the lower third of the leg and reaching the calcaneum channel. As the aponeurotic plane is opened, the epineurectomy is done and its interfascicularis adhesion is removed. When the surgical wound is being closed, the aponeurosis should not be compressed in the contour, but should remain open.---[From authors' summary.]


The authors review, historically and critically, the methods of plastic restoration of the contour of the dorsum of the hand after leprosy amyotrophy of the interosseous muscles. Concluding that no permanent or satisfactory results had been obtained by any of the techniques heretofore employed, they have tried a new method of surgical correction of these deformities. This procedure consists in autogenous free dermal graft of the intermetacarpal spaces. It was applied to a tuberous patient who had been definitely discharged fifteen years before, and who returned asking for the correction of his most unsightly stigma, deep wasting of the interosseous muscles. The intracarpal space were tunnelled through hidden incisions in the interdigital web, and then filled out with dermal grafts of proper shape and thickness, held with transfixing nylon sutures. Immobilization with wood [sic] pads was maintained for twenty days. The donor area (abdomen wall) was grafted with its own skin after the removal of the dermal transplant. The cosmetic results after one year appear very encouraging.---[From authors' summary.]

Bergelson, B. Reação gustativa a fenil-tio-carbanilida (PTC) e lepra. [Taste reaction to phenylthiocarbamide (PTC) in leprosy.] Rev. brasileira Lepros 30 (1962) 111-124.

The incidence of notasters to phenylthiocarbamide (PTC) was determined in 1,099 patients with both polar forms of the disease, and no significant difference was found with respect to the type. However, when the incidence of notasters among the whole sample (15.5%) was compared with data obtained among healthy people, the value among the leprosy patients as a whole was found to be significantly the lower. An increase of notasters among leprosy patients is regarded as due to natural selection. Data on thyroid disease, the effect of antithyroid drugs, cyclic changes in hormonal equilibrium, geographic distribution, and racial variations of high incidence of leprosy and tuberculosis, are discussed in connection with PTC taste ability. A hypothesis for explanation of the polymorphism for taste sensitivity and high incidence of leprosy in some regions is proposed.---[From author's summary.]

This report is a part of a study of the metabolism of M. leprae, using concentrates of the bacilli separated from uninfected (but frozen) nodules. The cell debris was separated from the bacilli by differential centrifuging. Normal skin and certain other mycobacteria were used as control materials. The pattern of amino acids in chromatograms after determining the dehydrogenase activity of the leprosy bacilli on L-glutamic acid showed, besides those found in normal skin, a spot (X) having the same Rf as y-amino butyric acid (GABA). It is conceivable that GABA detected in leprosy skin lesions entered through the dehydrogenase activity of M. leprae on skin glutamic acid.—H. W. W.


In fresh lepromatous lesions of the skin, a chroplotropo substance was found localized in the papillary layer, near the hair follicles and around the vessels. In cases with marked lesions, it exists in places where the lepra cells and bacilli have accumulated. There is a marked increase of the chroplotropo substance during the periods of lepra reactions. This substance is probably formed from protein exudate impregnating the interstitial substance. In lesions of tuberculoid and indeterminate leprosy, the chroplotropo substance is distributed mainly under the epidermis and around the blood vessels. Its content in infiltrates is rather low. The chroplotropo substance, being found in the basic matter of connective tissue and in cellular formation, is capable of turning into fibroblastic tissue which further transforms into collagen fibers. Perhaps, sclerosis of connective tissue can develop during regressive process in leprosy lesions. The newly formed collagen fibers forming from argepophilic fibers lose their chroplotropo properties and transform into rigid collagen fibers, and the latter spreads in growing and favors the outing of lepromatous granulomas.—N. A. Torstyn


Although the authors comment on the techniques of standardization of lepromin, as well as on the best way to obtain the raw material for production of the antigen, which is becoming more and more scarce, Concerning the latter, the authors discuss the mechanical tribulation of lepromatous tissues, dilution of the lepromin, the use of visceral lepromin, and also a method combining the usual technique of Hayaishi and Dharmendr, now used in the Instituto de Leprosologia. The authors conclude that the problem of standardization of the lepromin antigen has not yet been satisfactorily solved, and they describe the results with techniques which include bacterial counts, the weighing of chroplotropo extracts, and Hanks' technique.—[From authors' summary.]


The authors have performed the lepromin test on the Carajá Indians who, for more than four centuries, have lived isolated from the civilized world and, consequently, have not had any previous contact with either M. leprae or M. tuberculosis. Tests were made of 133 Indians, only 48 of whom (26 males and 22 females) showed up for the late reading. The findings were as follows: (a) 7 cases (11.6%) were positive; (b) none of the 10 persons of the 0-20 years age group was positive; (c) all of the positive cases were...
adults between 21 and 28 years of age, this representing an adult rate of 21.0% (7 positives in 32 tested); (d) there was no significant difference in reactivity between males and females; (e) the positive reactions were 1+ in 6 cases and 2+ in 1 case. In other words, the Indians below 0-20 years of age reacted as do the newborns in civilized communities, and those above 20 reacted as do the newborns in civilized communities, and those above 20 reacted as do children of the 0-5 years age group. This special way of reactivity of the Indians is thought to be due to differences in the exposures, and to natural selection. The Indian population is, nowadays, in the same position as the present civilized population would have been centuries ago. The high energy band of a population without any contact with civilized people must decrease gradually, due to exposure to other antigens and to natural selection. [From author's summary.]


The type and rate of mononuclear cells of guinea-pigs hypersensitive to tuberculin were studied by means of purified protein derivative labeled with $^{125}$I and mononuclear cells labeled with tritiated thymidine. The labeled protein derivative was taken up in vitro by lymphocytes and neutrophils of animals regardless of their state of reactivity to tuberculin, but it was bound more frequently by the cells of sensitized animals. Passive transfer of tuberculin hypersensitivity by means of lymphocytes labeled with tritiated thymidine indicated that significant numbers of radioactive cells migrated to the site where the skin was tested with purified protein derivative only when the test was made immediately after transfusion. Although skin reactions from tests made with PPD 24 hours after transfusion were comparable to those from tests made immediately, the number of labeled cells at the sites of the later tests was not consistently larger than it was in controls. Thus, transfused tuberculin-sensitive cells are neither always attracted to the sites of the test with PPD nor are they required in large numbers at the site for a positive reaction to develop. [From authors' abstract.]


Sera from 719 tuberculosis and 100 lepromatous cases of leprosy were subjected to the Kahn, VDRL and Kolmer tests (with certain modifications, especially in the antigens employed). Of the tuberculous cases, 8.9% reacted with Kahn, 3.1% with VDRL, and 2.6% with Kolmer. Of the lepromatous cases, 71% reacted with Kahn, 6% with VDRL, and 5% with Kolmer. It was brought out that the type of leprosy affects the reactivity to the Kahn test. Since in both types the lowest reactivities were the VDRL and Kolmer tests, these two are recommended for use in the detection of syphilis among leprosy patients. [From author's summary.]


The bacilli are phagocytized by a majority of the cells that have been tested. The phagocytized bacilli have remained inside the cells like foreign bodies, not actively interfering with the metabolism of the cells. The cells were kept alive for a long time, in comparison with what happens to those inoculated with virulence, which usually interfere actively with the metabolism of the cells, organizing it in their favor and resulting in the death of the cell. It seems as though there was an impermeable membrane which avoids exchanges between the bacilli and the host cells. [From authors' conclusions.]
In this further report on the successful continuous multiplication of *M. leprae* variose in the 14-pf line of rat fibroblasts, the authors describe some of the growth characteristics of the bacilli. Originally, a culture of fibroblasts was infected with 2.6 × 10⁶ bacilli and on the following day the cells were trypsinized. The cells were then transferred to half test-tubes and incubated at 34°C. Every 10th day the medium was changed, and after the cells were twice subcultured to fresh tubes, at 21 and 32 days of incubation, respectively, the cells were transferred to flasks. At each of these subcultures 50-85% of cells were retained for transfer, and the total number of bacilli present was determined. This culture has now been maintained for over 900 days, and during the culture periods of 425 and 477 days the cumulative increases in the bacilli were 9.3 × 10⁶ and 2.2 × 10⁷ fold, respectively, which figures five mean generation times of 14.2 and 15.3 days. (These times are similar to those found in rats and mice.) There was no evidence of a lag-phase in multiplication in the primary culture, although there apparently is one when this bacillus is injected into rats. The appearances of the bacilli by electron microscopy indicated that 10% of the cells were degenerate at the beginning of the experiment, and at no time did the proportion of dead bacilli exceed 20%. The highest proportion of degenerate bacilli occurred at about the 328th culture day, when the host cells were overcrowded with bacilli. Incubation of some of the bacilli in mice at intervals from days 154 to 417 showed that the bacilli were still viable and pathogenic. Attempts to grow the bacilli on artificial media on days 154, 296 and 386, however, or in cell-free tissue culture medium at day 366, were unsuccessful. Mycobacterial antigens were detectable by the OAg double-diffusion technique, with sera from rabbits immunized with *M. leprae* variose as the test serum, in concentrated filtrates of the culture from day 174. On day 296, the bacilli were successfully transferred to fresh cells by inoculating washed bacilli freed from the original culture by ultrasonic vibration, and on day 328 by adding fresh cells to the culture. — [From abstract by S. R. M. Bushby in *Int. J. Lepr.* 31 (1963) 268-270.]


In this study the authors took advantage of the morphologic changes that can be detected in dead mycobacteria by electron microscopy, and of the elongation that occurs *in vitro* with viable rat leprosy bacilli when incubated in a favorable medium. The proportion of degenerate bacilli in smears from the livers of mice increased from about 10% to 90% during the early stages with 40-50 μg/m, isoniazid per gm. started 4 months after infection; in the later stages of treatment, when the organisms were apparently resistant to this drug, the proportion decreased to about 40%. The resistance of the bacilli to the drug was confirmed by showing that treatment with isoniazid caused no increase in the degenerate bacilli when the animals were infected with bacilli that had been 3 times serially passed through animals treated with isoniazid, and that higher concentrations of isoniazid (1-25 μg/m, co) were necessary to prevent the elongation of these bacilli than the amount (0.2-1.0 μg/m, co) that inhibited these changes in normal bacilli. In mice infected with the resistant bacilli, there was a greater increase in the number of bacilli in the livers during treatment with isoniazid compared with that which occurred in untreated animals, and the authors suggest that some of the bacilli were isoniazid-dependent. — [From abstract by S. R. W. Bushby in *Int. J. Lepr.* 31 (1963) 1167-1170.]

A description is given of the first case of bovine leprosy ever found in a Holstein-Friesian cow. The leprosy nodules were mainly located in the lower part of the left hind- and right front-leg. The mode of infection could not be disclosed. A similar infection in an Ongole cow has been described [Kranenfeld and Roum]. Leprosy in the water buffalo and in the bovine has been found only in Indonesia until the present day.—[Authors' summary.]


This article deals with a detailed survey of the literature with respect to the problem of leprosy-like diseases in fishes, reptiles, birds, rats, dogs, cattle, marsupials, many-glands, buffaloes, asses, cows, sheep, mice and monkeys. Although these diseases are due to acid-resistant bacteria, the author considers them to have nothing to do with leprosy in human beings. Forty-two literary sources are listed.—N. A. Torekov

Gangaramchow, P. R. J., Corin, M. L., Dwyer, C. L. and Mingesnot, G. Infectivity and pathogenicity of Indian and British strains of tubercle bacilli studied by aerogenic infection of guinea pigs. American Rev. Resp. Dis. 87 (1963) 200-205.

The results of a study of the multiplication and dissemination of 10 Indian and 2 British strains of M. tuberculosis by means of aerogenic infection of guinea pigs have permitted classification of strains of tubercle bacilli with various degrees of infectivity and pathogenicity. Analysis of the results suggests that it may be possible to characterize a population of tubercle bacilli with regard to infectivity and pathogenicity after an experimental infection period of only three weeks.—[From authors' summary.]


Extrapulmonary leprosy more similar to those prevailing in their own native lands than to those among the natives of the land in which they live. Different groups in multiracial societies vary in the ratio of the different forms of leprosy and in their detailed manifestations. Quantitative comparison between populations of the frequency of different forms of leprosy varies according to the methods of classification used. Populations are polymorphic with regard to their reactions to lepromin, and this may indicate genetic variation. Afflicted individuals within families tend to suffer from similar forms of leprosy. The evidence suggests that there is a genetic system in man which affects the form that leprosy may take. There is a possibility that genetic variability in M. leprae itself influences the manifestations of leprosy.—[From author's summary in Trop. Dis. Bull. 59 (1962) 1067.]

**BOOK REVIEW**

[Festschrift for Professor Tanigawa.] The Alumni Union, Department of Dermatology and Urology, University of Osaka School of Medicine, 1961, 635 pp.

This large volume, a collection of articles in English and German, is dedicated to Professor Emeritus Todayasu Tanigawa in celebration of his seventieth birthday. The title, in Japanese only, is on the front cover and the spine, in Western fashion, although what appears to be an introduction (in Japanese) is found on page 635. No response was received to a request for the translation of the title, and for other information.