

S. N. Chatterji writes on *The Mechanism of the Neural Signs and Symptoms of Leprosy*.

He is not satisfied with the usual explanations given of the causes in leprosy of hypopigmentation, anidrosis, keratosis, depilation, loss of sensation, paralysis and trophic ulceration, namely that they are due to degeneration of various types of nerves. He puts forward the hypothesis that most of these are due to diminution of blood supply to the nerves or to the skin and its appendages. As evidence he mentions the improvement of sensation after engorgement of the skin during reaction, or after oil or saline injections, or with passive congestion after tying a binder round the leg or thigh. The temperature of anaesthetic areas was found to be lower than in those with sensation. It is suggested that diminished blood supply to the nerves may be caused by pressure of a thickened nerve sheath on the vasa nervorum, pressure from cellular infiltration between the nerve fibres on the vasa nervorum, or pathological changes in the blood vessels of the nerve.

*Thiosemicarbazone as an additive in the Treatment of Leprosy*, by A. R. Davison.

The difficulties are described in the trial treatment of 50 patients on thiosemicarbazone (TB-1). Of the 50, there were three deaths from other causes, three absconded, all the thirteen Europeans at their own request had to be transferred to combined treatment including sulphones. The whole project was stopped in April 1954 (after 3½ years' treatment) and would have been stopped sooner had it not been that changes in the morphology of the bacilli encouraged continuing longer. The results in the six tuberculoid cases were fairly satisfactory, as all were discharged in the end, but the results were slower than would have been expected with sulphones. Of the 37 lepromatous cases who continued the treatment, though there was clinical improvement in between three months and a year, and ulceration of the limbs and

larynx healed, only four became negative; but all of these had been taking sulphones, three of them for six years and the other for three years. It is considered that in lepromatous leprosy its action is weak, and in combination with sulphones the two drugs appear to be antagonistic.

M. Blanc and M. Prost write on *Clinical and Therapeutic Study of an Antigen Prepared with Mycobacterium Marianum, Applied to 457 Leprosy Patients.*

The results obtained in producing 73.3 per cent of positive Mitsuda reactions with injections of this antigen in six months to one year, led the authors to apply these injections to all new cases that came under their care. The present report is on 457 patients, 50 per cent of whom were formerly on sulphones combined with the antigen, though later the sulphones were omitted. 0.1 c.c. of the antigen is injected intradermally on the outer side of the left arm once a month for three to six months, followed by two months rest. A local, focal and general reaction results with fever, headache for two or three days, and with burning at the site of injection and a papule which increases up to the 28th day, forming a nodule which may become 2 to 3 cm. in diameter. There is generally a diffuse pruritis with micropapules. The reactions vary in degree, 17.5 per cent being weak or negative, 72.5 moderate, and 1.4 strong. The results on the condition of the disease are given but the length of treatment at the time of assessing the results is not made clear. Of the 457 patients, 10 died of other causes, 19 became worse, 96 remained stationary, 334 improved, and of these last 259 improved markedly or very markedly. [This leaves a discrepancy of two.] It is concluded that, as in 79.9 per cent the state of the leprosy and the general condition [no mention is made of bacteriological results] improved, and in 56.4 per cent this improvement is of considerable degree, and as improvement is more rapid and stable (with fewer reactions) with the antigen than with the sulphones, "its efficacy is comparable to that of the sulphones, the action of which it simulates, and which it can replace advantageously."

*The Histopathology of Acute Panniculitis Nodosa Leprosa (Erythema Nodosum Leprosum)*, by W. J. Pepler, R. Kooij and R. Marshall.

The authors consider the term "erythema nodosum" in leprosy to be misleading because their histological examinations of 20 specimens from 19 cases show a condition different from

what is generally described under that term. They base their opinion chiefly on the findings in the subcutis rather than in the dermis, and particularly in the fat lobule. "In early cases the histological picture varies from that of small foci of acute inflammatory-cell infiltration or serious atrophy of fat and small foci of necrosis, to an extensive acute panniculitis with numerous areas of abscess formation." The septa between the fat lobules show much less extensive infiltrate. In contrast with this the classical erythema nodosum is characterised chiefly by changes in these septa, which are enlarged by fibrinous exudate with leucocytes and giant cells, and contain the so-called reticuloendothelial nodules of Miescher. The authors therefore prefer the name "*panniculitis nodosa leproma*" for the reactive condition which occurs in lepromatous leprosy. The histological appearances of the two conditions are illustrated in three photomicrographs.

*Tuberculization and Reactivity to Lepromin. Association between Lepromin and Tuberculin Reactions in School Children in Cordova and Opon, Cebu, Phillippines*, by R. S. Guinto, J. A. Doull and E. B. Mabalay.

This study aims at determining to what extent a positive lepromin reaction indicates resistance to leprosy. "To determine what actually occurs, field studies in endemic areas are required, designed to measure attack rates in groups of persons differing in response to lepromin but comparable in other respects."

In 544 children of between seven and nine years of age a study of association between reactions to tuberculin (first and second strength PPD) and early and late reaction to lepromin. With the first PPD strength 14 per cent were positive, and with the second 71.9. With the early lepromin reading 4.4 per cent were positive, and with the late 65.3. In only 24 children was there a 10 mm. or more early lepromin reaction, and all of these had typical late reactions. Of these 24 there were eight positive to the first strength PPD, and all were positive to the second. The occurrence and intensity of the Mitsuda (late) reaction were positively associated with those of the PPD reaction. This would tend to show that tuberculization of the population may have been responsible for concurrent acquirement of reactivity to lepromin.

There are, however, disagreements in both directions: 9.5 per cent negative to PPD (of second strength) were positive to Mitsuda, though in all but one of these the Mitsuda reaction was weak, which suggested that it might be well in correlating the two

reactions only to accept lepromin reactions stronger than 1+. On the other hand there were 16.2 per cent positive to PPD but negative to lepromin, and in 63.6 per cent of 88 children with this type of disagreement the reaction to tuberculin was 2+ or more.

The only explanation of these disagreements is that, if the tuberculization hypothesis is true, certain persons can develop tuberculoid lesions when acid-fast bacilli are injected into the skin, but have lost or never possessed hypersensitivity to tuberculin; while in others hypersensitivity is present but the power to localize the bacilli in the skin by forming a tubercle is absent.

The article ends with the statement that until cultures of *Myc. leprae* are available "little progress can be made in the fundamental chemical studies which are essential for the elucidation of the nature of the lepromin reaction."

*Experimental Studies on Transmission of Human Leprosy to Monkeys*, by Shang-Ho Lai.

He describes the histories of 18 Taiwan monkeys (*Macacus cyclopis*) which had been inoculated with leprosy nodule suspension, and/or implanted with pieces of human leproma subcutaneously. In seven of these, clinical signs developed in the form of nodules, chiefly at the site but also at a distance, swelling of lymph nodes, and flexion of fingers and toes. He makes no mention whether bacilli were found in the distant nodules, nodes or nerves. There are 12 illustrations.

R. S. Buker, writing on *The Value of Leprosy Villages in a Programme of Prevention*, advocates the formation of leprosy villages, where patients can cultivate their land, choose their own leaders, and, away from the abuse that they are accustomed to in their original homes, lead a happy and normal life. "This kind of relative isolation is satisfactory isolation. It has been impossible, to date, to locate a single case of leprosy which has developed because of contact with one of these village cases by a person who lived outside the village. There probably are such cases, but they certainly are rare." Another advantage claimed is that they are economical, when funds and public opinion are not ready for a more intensive type of work, costing less than a tenth of larger colonies. It is acknowledged that without proper supervision there is a tendency for people to come from a distance and thus increase the total leprosy population in an area. [In fact the degree and quality of supervision is the essential point. As has been found

in India and Africa, gathering together of leprosy patients in one area without adequate supervision tends to increase rather than to control the disease.]