

REVIEWS

International Journal of Leprosy. Vol. 20 (1952). July.-Sept.
Tratamiento de la Reaccion Leprotica (Lepto-reaccion Lepromatosa) con Plasma, by F. Contreras and others.

In the English summary the writers state:—

“ In other diseases of a serious nature for which also no effective treatment has been found, treatment with blood plasma or other fractions of denatured blood has been employed. Of the blood fractions it seems that the gamma globulin is the richest in immune bodies and it might be useful in the treatment of the reactions in leprosy. Twenty-two patients with advanced lepromatous leprosy who had frequent lepra reactions were given 85 transfusions of “ iso plasma ” (plasma from disanaphylactized calf blood). Tolerance to this treatment was found to be fairly good. Twelve of the patients tolerated the heterologous plasma perfectly. Six had slight side effects of no importance. In four cases there were serious although shortlived ill effects of allergic nature. All patients treated showed improvement. The best results were seen in patients who had nausea, vomiting and intolerance of all kinds of food, which condition yielded rapidly. Persistent and repeated epistaxis also ceased quickly. Great improvement was seen with respect to neuritis, manifestations in the skin and mucous membranes, the general condition, and the fever, which in some instances subsided after the first transfusions while in others its subsidence occurred after the other symptoms disappeared.

Changes in the Anterior Nasal Spine and the Alveolar Process of the Maxillary Bone in Leprosy, by V. Møller Christensen and others.

The first writer noticed a marked atrophy of the alveolar process of the maxillary bone and also atrophy of the anterior nasal spine in 110 of 150 skulls of leprosy patients buried in the Naestved, Sct. Jorgensgaard between 1260 and 1540 A.D. in addition to the typical changes in the hands and feet. He assumes that this atrophy is typical of leprosy and calls it “ *Facies Leprosa.*” Seven living patients with leprosy were studied and in five X-rays showed atrophy of the ant. nasal spine and all seven showed atrophy of the alveolar process of the maxillary bone but this was probably due to earlier loss of teeth. No changes of sensitivity were found which might indicate that the atrophy was due to neurotrophic disturbance of the bone. They consider that atrophy of the ant. nasal spine may be an early manifestation of leprosy and may be demonstrated by X-ray or palpation.

Specific Tissue alterations in Leprous Skin. 1. Transformation of the Tuberculin reaction in leprosy patients into leproma-like lesions, by F. Sagher and others.

In two patients with lepromatous leprosy who had become free of clinical signs of the disease after treatment the intradermal injection of old tuberculin or P.P.D. resulted in the development of persistent dermal lesions. These lesions were indistinguishable from true lepromata both clinically and histologically. Acid fast bacilli, however were not demonstrated in any of the sections but smears from the floor of the excision wounds revealed a few acid-fast bacilli in the first instance and acid-fast granules in the second case.

Changes in the Lepromin and Tuberculin Reactions of Lepromin-Negative Patients after Vaccination with B.C.G., by J. Convit and others.

The writers believe that the prognosis in persistently lepromin negative lepromatous cases can be improved by the previous vaccination with B.C.G. A group of 113 patients with lepromatous leprosy whose lesions had disappeared under diasone or promin treatment were given B.C.G. vaccine. Of these patients 51 were negative to tuberculin and 62 weakly positive. Of the 51 cases negative to both tests 25.4% became positive to lepromin after B.C.G. vaccination, and of the 62 who were negative to lepromin but weakly positive to tuberculin 53.2% became lepromin positive. In a group of 40 patients with the indeterminate form of leprosy who were negative to both tests the lepromin reaction became positive in 87.5%.

A Nonchromogenic culture of an Acid-fast bacillus isolated from the nasal mucus of a leprosy patient; Its virulence for laboratory animals, by H. C. de Souza-Araujo.

This paper describes the isolation and cultivation of an acid-fast coccobacillus obtained from the nasal mucus of a young Brazilian woman leprosy patient. The culture called "Dalva" strain after her produced generalised infection and considerable lesions in guinea-pigs, black mice and cebus monkeys. In the original culture on Loewenstein's medium the germs were predominantly coccobacilli but became bacillary in the lesions in the laboratory animals. The bacilli were strongly positive to the Dubos test, as strongly as the Koch bacillus, but did not produce tuberculous lesions in guineapigs. At first the culture could not be recovered from the experimental lesions but in an addendum to the paper the writer says that in further experimentation a cebus monkey was reinoculated on January 15th, 1952 with a suspension

of a two-month-old culture grown on 5% glycerin-agar and nodules developed which were very rich in acid-fast bacilli. From these growths were obtained on Loewenstein's media similar to the original Dalva strain.

The Mechanism of action of the Sulphone derivatives in Lepromatous Leprosy, by Paulo Rath de Souza and M. de Souza Lima.

This is a very interesting and provocative paper. In their descriptions of the fundamental lesions of lepromatous infiltrations and lepromata they state that both are formed essentially by variable numbers of histiocytic (Virchow) cells assembled together and sometimes forming tumourlike masses. Within these cells are found the agent of the disease, Hansen's bacillus. These lesions do not last indefinitely but undergo regression either after treatment or spontaneously and when complete leave only scars. The Virchow cells in regression are definitely swollen with a pyknotic nucleus and a cytoplasm with a great number of rounded vacuoles of various sizes which give them a foamy appearance. After staining with scarlet red these vacuoles are seen to be filled with lipids. These cells in regression contain few of rare acid-fast bacilli of granular appearance and they may contain no bacilli whatever.

Virchow cells which are not in regression are smaller than those in regression. They have a vesicular nucleus and their cytoplasm is contrary to what is currently believed, is not vacuolated and still less is it foamy. They are fairly simple macrophages of a wide variety of shapes and forms. They are seen teeming with typical bacilli forming globi. The quantity of lipids found is in general inversely proportional to the number of bacilli.

The writers believe that the process of degeneration of the cell begins before the bacillary degeneration. They write, "It is our personal conviction that the Hansen bacillus is a parasite strictly adapted to the histiocyte of human beings in whom the conditions are favourable for the development of the lepromatous type of the disease. The Virchow cell, therefore, actually constitutes the habitat of the Hansen's bacillus and for this reason we think that it can live and multiply, at least substantially, only inside the histiocyte which itself proliferates and is "colonised" by the bacillus. They call this the Virchow cell — "Hansen bacillus complex." They do not deny the existence of a direct action of the sulphone drugs against the Hansen bacillus but they believe that the sulphones act principally on the Virchow cell component in some way altering its metabolism and making its cytoplasm unsuitable for the life of the Hansen bacillus. An identical mechanism is also operative, although not so regularly or effectively,

either when other ways of treatment are applied or in natural conditions when regression of the lesions occurs without treatment. 28/2/53.

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World Health Organisation Technical Report Series. No. 71.

FIRST REPORT OF THE EXPERT COMMITTEE ON LEPROSY.

This is the report of the Expert Committee which met in Rio de Janeiro and Sao Paolo between November 10th and 19th, 1952 and was presented to the World Health Assembly in Geneva.

The report is divided into six sections:—

1. EPIDEMIOLOGY.

Only one aspect of this subject is dealt with, i.e. the infectiveness of the different forms of leprosy. Endorsing the Cairo (1938) report leprosy is divided, from an Administrative point of view, into "open" and "closed" cases according to whether bacilli are or are not found by routine bacteriological examination by the slit method. The Committee do not consider that closed cases play an important part in the spread of the disease though a few bacilli may be found by special concentration methods.

2. CONTROL

The control of leprosy must be undertaken within the general framework of the health administration of a country and not as a disease apart. The aim should be to discover cases as soon as possible in order to stop the spread of infection and give the patient the benefit of treatment. Compulsory isolation has failed as a control measure because many cases are infectious for years before they are diagnosed and because compulsion tends to make patients hide themselves for as long as they can especially during the period during which the disease is most curable. Modern treatment helps to reduce infectivity. For this reason leprosy treatment centres—static and mobile—with central well equipped laboratories for diagnosis are considered essential. Isolation of "open" case only when applied with discrimination and in combination with education and effective treatment retains an important place in the fight against leprosy. The various forms of isolation—domiciliary, village settlements, leprosaria, hospitals for cases needing special treatment and asylums for the permanently crippled are dealt with. Preventoria for the protection of the children of patients is advised. In countries where leprosy is not endemic and shows no tendency to spread notification with surveillance is deemed sufficient.

Possible prophylaxis with B.C.G. was considered. Although recent work suggests that this artificially produced lepromin positivity in healthy persons may be of value as a prophylactic

measure the committee cannot yet recommend its wholesale use as a control measure. They, however, recommend that large scale trials with full controls be made to test its value and to determine the optimum dosage of B.C.G. that may be required.

3. CLASSIFICATION.

The Committee agreed unanimously that the basic criteria for primary classification should be clinical, comprising the morphology of the skin lesions and neurological manifestations together with bacteriological examination of skin lesions and nasal mucosa. The lepromin reaction and histopathology are necessary for division into sub-groups. The committee recommends four forms or classes of leprosy in the primary classification—Lepromatous, Indeterminate, Tuberculoid and Borderline. The last being a malign form, very unstable, almost always positive bacteriologically and generally lepromin negative. It frequently arises from the tuberculoid as a result of repeated reactions.

4. TREATMENT.

The Committee is unanimous that sulphone treatment is superior to all previously used. "Sulphones are believed to be bacteriostatic and prevent the multiplication of bacilli, reducing the intensity of infection to a level at which the protective mechanisms of the body can control it. It is doubtful whether the infection is eradicated; relapse is therefore possible." General experience has shown that small doses of the parent D.D.S. have a therapeutic action which is in general no less than that of the larger doses of the D.D.S. derivatives in use. As it can be given orally weekly or bi-weekly it is of great value in mass treatment of leprosy. Treatment with thiosemicarbazones, is recommended as an alternative.

5. IMMUNOLOGY.

A full account is given of the preparation of lepromin antigen by the Mitsuda, Fernandez and Dharmendra methods with recommendations regarding recording reading of early and late reactions.

6. HISTOPATHOLOGY.

As the interpretation of histopathological specimens depends to a considerable degree on the personal judgment of the examiner and as materially different descriptions have been given of identical specimens by different examiners the Committee plan to have a number of identical specimens examined by several leprologists and their reports evaluated by an independent body. This should materially clarify the value and place of histopathology as a basis of classification in leprosy.

27/11/53

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