

HANSENÍASE: RESUMOS HANSENIASIS ABSTRACTS

BACTERIOLOGIA, IMUNOLOGIA

BACTERIOLOGY, IMMUNOLOGY

ABE, M.; OZAWA, T.; MINAGAWA F.; YOSHINO, Y. Subclinical infection in leprosy — its detection and control by fluorescent leprosy antigen absorption (FLA-ABS) test. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :263-273, 1981.

The fluorescent leprosy antibody absorption (FLA-ABS) test was used for detecting subclinical leprosy infection in the inhabitants in the Miyako Islands which were known as leprosy hyperendemic areas in Japan. One hundred and twenty-six of 1,559 schoolchildren and 68 of 571 adults had suspicious neural symptoms such as the enlargement of auricular and/or ulnar nerve(s) without sensory loss. The FLA-ABS test was positive in 90(71.4%) of 126 schoolchildren with the enlargement of peripheral nerve and in 13 (14.1%) of 92 children without any clinical signs. In adults, similar percentages, 66.2% (45/68) and 16.9%(23/136) were obtained. Therefore, a correlation between the FLAABS test and the neural symptom is significant statistically in both schoolchildren and adults. Serological specificity of these positive reactions was checked by testing for cross-reactivity with the other mycobacteria. Only 16 out of 183 positive sera showed some cross-reactions. After additional absorption of the sera with the cross-reacting bacteria, positive reactions against *M. leprae* were not affected at all. On the other hand, the FLAABS test was negative in all of the healthy blood donors and the students of nurse school and in 23 of 24 patients with the other skin diseases in leprosy nonendemic areas. Therefore, the percentage of positive FLAABS test is considered to represent the rate

of subclinical leprosy infection. The lepromin test with the Dharmendra's antigen was conducted on the schoolchildren for selecting the individuals with low or no resistance against leprosy. Among 217 schoolchildren examined simultaneously with this and FLA-ABS test and the neural symptom is significant reactions. The enlargement of peripheral nerve was found in 36 of these cases. The other 30 children showed positive FLA-ABS test, while negative or doubtful Fernandez' reaction. The neural symptom was found in a half number of these cases. It was suggested that these children should receive priority to vaccination for the prophylaxis of leprosy. — Authors' summary

BRYCESON, A. The relative importance of specific immunity in protecting against leprosy. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1) :93-107, 1981.

The studies of Godal and Negassie and Abe demand a revision of present concepts of the epidemiology of leprosy. Subclinical infection is the rule and provides a weak measure of specific protection, but also provides a latent reservoir of infection in the community. Other forms of specific protection may also exist. The pattern of disease and resistance will be affected by other factors, notably genetic susceptibility, intensity of transmission and exposure to other mycobacteria, both wild and BCG. The relative importance of these factors is different when leprosy is epidemic, endemic or waning. — Author's summary and conclusions

CASTELLS RODELLAS, A.; TERCENIO DE LAS AGUAS, J.; RAMIREZ BOS-CA, A. Estado actual de la inmunología de la lepra. *Rev. Lepr. Fontilles*, 13 (3) :281-293, 1981.

From the immunological point of view leprosy is brought up to date, primarily bacillus of Hansen, insisting about the poverty of antigens, transmission of disease and immune host reaction, studying the role of lymphocytes T and even more the subsets made by monoclonal antibodies and the role of lymphocytes B. An immunological study is been realized at different clinical form and at the leprosy reactions, concluding with hypotesis that the faults of immunity of leprosy could be the only explanation. — Authors' summary

CLOSS, O. & REITAN, L.J. *In vitro* lymphocyte stimulation using a purified antigen of *Mycobacterium leprae* and tuberculin PPD. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :251-262, 1981.

DAM, H.G. & SANSARRICQ, H. The use of immunological tests in epidemiological work. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :289-298, 1981.

A simple immunological test could be profitably utilized in a variety of epidemiological work in leprosy. The epidemiologist will be able to handle almost any test, even if it may seem to lack sensitivity and specificity. In this respect the viewpoint of clinicians might be quite different. Progress in this field will probably be achieved more rapidly if experienced epidemiologists are given the opportunity to participate in the development of the test. The relevant activities of the Scientific Working Group on Immunology of Leprosy (IMMLEP) are being developed according to this requirement. — Authors' conclusion

GILLIS, T.P.; ABE, M.; BULLOCK, W.E.; ROJAS-ESPINOSA, O.; GARCIA-ORTIGOZA, E.; DRAPER, P.; KIRCHHEIMER, W.; BUCHANAN, T.M. Comparison of 22 species of mycobacteria by immunodiffusion against an absorbed reference leprosy serum. *Int. J. Lepr.*, 49(3) :287-293, 1981.

Lithium acetate antigenic extracts of 22 species of acetone treated mycobacteria were tested by immunodiffusion precipitation for

reactivity with a pool of sera from treated lepromatous leprosy patients (ARLS). This ARLS had been adsorbed with *M. bovis* (BCG), *M. vaccae*, cardiolipin, and lecithin to make it specific for *M. leprae* when used in an indirect immunofluorescence test. The ARLS produced two precipitin lines with *M. leprae* extract, one of which formed a line of identity with extracts of *M. lepraemurium* and *M. bovis* (BCG). Also, recognition without reactions of identity was produced between ARLS and *M. flavescens*, *M. gastri*, *M. gordonae*, and *M. nonchromogenicum*. The ARLS did not recognize the 15 other species including the human pathogens, *M. tuberculosis*, *M. intracellulare*, *M. kansasii*, *M. scrofulaceum*, and *M. marinum*. These data suggest that serologic tests for *M. leprae* infection might be affected by antibodies to antigens shared by *M. leprae* and other mycobacteria. The significance of these shared antigens will depend upon the prevalence of human immune responses to mycobacteria containing the shared antigens in any given community. — Authors' summary

HARBOE, M. *Mycobacterium leprae* and the host response. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) : 1-14, 1981.

Under standard conditions of inoculation of *M. leprae* in the footpads of normal or thymectomized mice, the same pattern of multiplication has been obtained by several hundred strains of *M. leprae* from patients with active disease, irrespective of the clinical type of leprosy, race or region of the world from which they came (18). These observations indicate strongly that the extent of multiplication *in vivo* is determined by the host response and not by variation in virulence or pathogenicity of the parasite. The evidence for strain variation in *M. leprae* is meager, although existent (61, 62). Variation in host response is profound and responsible for most of the variation in clinical course after infection. Our knowledge of the basis of this variation is only fragmentary. Most studies have been concerned with patients with persisting disease, i.e. late in the process, whereas the events crucial for determination of the subsequent course may occur close to the infection with *M. leprae* several years earlier. To a great extent, we even don't know how to study the early events after infection on the individual level. Epidemiological studies may provide information on variation in events associated with the initial infection and on the probability and extent of superinfection. This information needs to

be correlated with determination of clinical course and careful immunological studies at different stages in humans and in experimental models. I expect that collaborative and long term studies of this kind will be mutually rewarding and required to obtain an understanding of leprosy comparable to that of other important infectious diseases. — *From the article*

HARBOE, M. Radioimmunoassay and other serologic tests and their application in epidemiological work. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1) :276-288, 1981.

HUIKESHOVEN, H.; DE WIT, M.; SOETERS, A.; LANDHEER, J.E.; LEIKER, D.L.; NIEMER, A.Q.H.J.; WARN-DORFF, T. ELISA inhibition technique for the demonstration of sulphones in body fluids. *Lepr. Rev.*, 52(3) :221-228, 1981.

Two enzyme-linked immunosorbent assays (ELISA) for sulphones in body fluids were adapted to measure sulphones in blood dried on filter paper. The more sensitive modification, based on competition between dapsone (DDS) and enzyme-dapsone conjugate, detects sulphone in blood extracts up till 6 days following 100 mg DDS intake. Application to monitor patient compliance is demonstrated, using finger-prick blood from 30 Ethiopian leprosy patients. Results are compared to those in urine, and to statements as regards the last daily dose of 100 mg DDS. Eight negative results were found, and employing serial dilutions of positive controls, this indicated that omissions of more than 5 doses in succession occurred. Practical aspects of the technique are discussed. — Authors' summary

HUIKESHOVEN, IL; DE WIT, M.; EGGELTE, T.A.; LANDHEER, J.E.; LEIGER, D.L. Haemagglutination inhibition technique for the demonstration of sulphones in urine. *Lepr. Rev.*, 52(3) :229-235, 1981.

A haemagglutination inhibition (HI) test for the detection of sulphones in urine is described. The lowest quantity of dapsone (DDS) in urine, detectable by HI is 1-0.1 g/ml. In urine samples collected from 10 volunteers sulphones are detectable by HI up to 3-6 days after taking single 100 mg DDS doses. The method is less sensitive than the enzyme-linked immunosorbent assay (ELISA), described earlier, but its advantage is that

only one incubation and no washing steps are required. This simple and specific test can be used to monitor self-medication of leprosy patients under field conditions. — Authors' summary

KRONVALL, G. The potential of immunological tests as tools in the epidemiology of leprosy. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1) :207-219, 1981.

A review of some previous applications of immunological tests in leprosy and for comparative purposes also in tuberculosis has shown that specificity of the tests constitutes the major constraint on their use on a larger scale for epidemiological purposes. The main factor of importance for specificity is the quality of the antigen used in the test. As cell surface antigens seem particularly promising in terms of specificity, a better definition and separation of these components might open new avenues for continued progress in the field of leprosy research. — Authors' summary

LEFFORD, M.J. Lepromin as an indicator and inducer of protective immunity. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1) : 221-229, 1981.

MAGNUSSON, M. The control of specificity of skin test reagents. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1) :231-239, 1981.

While the term "specificity of skin tests" frequently is defined as the percentage of false positive reactions to the tests, there seems to be no generally used definition of the term "specificity of skin test reagents". At present, "difference in specificity" or "specificity difference" of two skin test reagents is used for the characterization of two such reagents that possess varying relative potencies when used or studied in different biological systems. A method (known for 25 years) for the measurement of specificity differences of mycobacterial sensitins by comparative reciprocal intradermal testing on guinea-pigs, is described at some detail. Other methods, which may be used for the same purpose, are only touched upon. Some prerequisites for using these same methods for the study of the specificity differences of a pair of lepromins are not complied with. The

particular problems encountered in the study of specificity differences of preparations of lepromin are therefore dealt with separately. The definitions of "ideal preparations" of tuberculin and of lepromin and the definition of the specificities of these hypothetical preparations will depend on the specific purpose(s) of the use of these reagents. In this work, the terms used in the title will first be precised. Thereafter, the control of the species specificity of tuberculin and of other mycobacterial sensitins will be dealt with (for definition of sensitins and other terms, see below, "Terminology"). Finally, and in a separate section, problems encountered in the characterization of the specificity differences of preparations of lepromin are discussed. — Author's summary

MSHANA, R.N. Hypothesis: erythema nodosum leprosum is precipitated by an imbalance of T lymphocytes. *Lepr. Rev.*, 59(1):1-8, 1982.

Erythema nodosum leprosum (ENL) has so far been taken as an immune complex mediated disease. Failure to demonstrate these complexes in or around blood vessels showing perivascularitis in a substantial number of patients with ENL has never been clearly explained. It is proposed that initiation of ENL is mediated by an imbalance of T lymphocytes, especially suppressor T cells, leading to modulation of polymorphonuclear leukocyte function. — Author's summary

RIDLEY, D.S. The pathogenesis and classification of polar tuberculoid leprosy. *Lepr. Rev.*, 59(1):19-26, 1982.

Skin biopsies received from about 1,500 patients of varied ethnic and geographical origins produced 26 cases that fell within the polar tuberculoid (TT) group on the strictest definition, and a further 18 cases that might be considered as TT on histological and immunological grounds. The 44 cases were of 2 broad types. Nearly half were characterized by many lymphocytes but few other histological features, with no severe nerve involvement, no signs of reaction and good clinical-histological correlation. The remainder were characterized by severe nerve involvement or erosion of the epidermis and often by signs of reaction, all of which are associated with high lymphocyte transformation values; many of these cases were clinically BT. There was a fairly sharp distinction between these 2 types, with an intermixing of features only in cases that were not truly polar. There was also a partial

geographical separation of the 2 types. The first appeared to represent primary lesions with high cell-mediated immunity; the second to have evolved through reactions associated with delayed hypersensitivity. — Author's summary

SAHA, K.; SHARMA, V.; SIDDIQUI, M.A. Decreased cellular and humoral anti-infective factors in the breast secretions of lactating mothers with lepromatous leprosy. *Lepr. Rev.*, 59(1):35-44, 1982.

Breast secretions from 28 healthy lactating women and 12 lepromatous mothers feeding their children for a varying period (2 days-2½ years) were studied for the total and differential cell counts and immunoglobulin concentrations. It was observed that the total leucocyte count in the milk of the lepromatous mothers was low and also the macrophage count was significantly decreased. The mean secretory immunoglobulin-A level was significantly decreased in the colostrum as well as in the mature milk of the lepromatous mothers as compared to those from the healthy mothers. Acid-fast bacilli could be detected in 9 of the 12 leprosy patients' breast secretions by employing a new technique of coprecipitation of bacteria by 4% polyethylene glycol. The immunologic implications of these findings have been discussed. — Authors' summary

SEHGAL, S. & KUMAR, B. Circulating and tissue immune complexes in leprosy. *Int. J. Lepr.*, 49(3):294-301, 1981.

Various immunological studies were conducted in lepromatous leprosy patients. There was a polyclonal rise of all the three major immunoglobulins. Serum IgD levels remained unaltered. Positive latex agglutination reactions (RA) and parietal cell antibodies were distinctly more frequent in patients. Eighty-five percent of patients observed in the dermal capillaries and small arterioles, but not in larger vessels, in 6 of 17 cases. Only one case showed staining of the dermoepidermal junction. Antinuclear antibodies (ANA) were detected in a single patient, and this patient also showed ANA *in vivo*. — Authors' summary

STANFORD, J.L.; NYE, P.M.; ROOK, G.A.W.; SAMUEL, N.; FAIRBANK, A. A preliminary investigation of the responsiveness or otherwise of patients and staff of a leprosy hospital to groups of shared or species specific antigens of mycobacteria. *Lepr. Rev.*, 52(4):321-327, 1981.

In an attempt to classify skin-test responsiveness of leprosy patients according to the groups of antigens, rather than the individual mycobacterial species to which they respond, we have tested patients and staff members at Anandaban leprosy hospital in Nepal with Burulin (made from *Mycobacteria ulcerans*) and 3 specially mixed reagents. Ability to make a positive response to group i, common mycobacterial antigens, was almost absent and to group ii, antigens associated with slow growers, was markedly impaired in the patient groups. However, positive responses to group iv, species specific, antigens of slowly growing species were retained. Non-specific skin-test unresponsiveness (Category 2) due either to sequestration of the relevant cells outside the circulation or to circulating suppressor factors was present in 2 out of 27 staff members, 9 out of 24 TT/BT patients, 11 out of 18 BL patients and 10 out of 22 LL patients. Evidence of a suppressor mechanism possibly triggered by group iv antigens of fast growers and operative on positive responses to slow growers, was demonstrable in 3 out of 12 staff members, 8 out of 14 TT/BT patients, 7 out of 7 BL patients and 6 out of 12 LL patients. It cannot at the moment be proved whether these observations are related to susceptibility to the disease, or are consequences of it. However, the presence of the same, or similar, suppressory phenomena amongst staff members argues against the latter. — Authors' summary

TARABINI-CASTELLANI, G.; TARABINI-CASTELLANI, G.L.; NUTI, M. IV. El test de Mitsuda con lepromina de armadillo de sujetos sanos vacunados y no con la vacuna antituberculosa BCG (-I-). *Rev. Leprol. Fontilles*, 19(1):29-35, 1981.

The number and intensity of positive responses to the lepromin A test has been found to be higher among BCG-vaccinated subjects as compared with the non BCG vaccinated group. The total number of persons tested with lepromin A was 3,096, out of which 1,399 had been given BCG. The basic findings are as follows: Mitsuda negative: BCG vaccinated, 6,43%. Non BCG vaccinated, 37,36%. Mitsuda positive with ulcerated nodule: BCG vaccinated, 45,46%. Non BCG vaccinated, 11,66%. The AA. are of the opinion that the greater degree of intensity due to BCG is the ICM specific type, however, it should not be forgotten that some antigens are common to *M. tuberculosis* and *M. leprae*, rather than discarding the use of BCG for purposes of leprosy control, it

would be worthwhile investigating ways to supplement its antigen-deficiency vis-a-vis *M. leprae*. — Authors' summary

TARABINI-CASTELLANI, G.; TARABINI-CASTELLANI, G.L.; NUTI, M. V. — La vacuna BCG y la lepromina de armadillo suministrada contemporaneamente sea en asociación sea separadamente (+). *Rev. Leprol. Fontilles*, 1.7(1) :37-42, 1981.

A total of 42 children, aged 6 to 14, were subjected simultaneously to the lepromin A test and BCG vaccination. Readings were taken on the 30th day. The 16 children who were administered the two antigens jointly in a single injection all showed a highly positive response, with ulcerated nodules, on the 30th day. A second test using lepromin A alone and investigating the response of T lymphocytes to the leprominic antigen will tell us to what extent BCG affected, from the point of view of specificity, the immunizing action of lepromin A. As to the 26 children who were administered the two antigens separately, it was observed that in all of them BCG caused an ulcerated nodule, while the response to lepromin A was negative in 5 cases, and positive in the remaining 21, the ulcerated nodules appearing in 4 subjects only. The Authors comment on the influence which BCG may have had on the leprominic response and their future research programmes. — Authors' summary

TARABINI-CASTELLANI, G.; TARABINI-CASTELLANI, G.L.; MOHAMED, F.A. VI. — Mitsuda test con lepromina "A" en sujetos pretratados seis meses antes con una mezcla de lepromina "A" y "BCG". *Rev. Leprol. Fontilles*, 13(1) : 43-49, 1981.

Thirty-nine school-age children were simultaneously injected with lepromin A and BCG: to 14 of them (group I) the two antigens were administered as a single mixture; the remaining 25 (group II) were injected, simultaneously but separately, with BCG and lepromin A and they reacted to lepromin A as follows: negative: 19,23%; positive 1 +: 65,38%; 2 1-: 11,53%; 3 +: 3,84. The total number of cases with ulcerated nodules represented 15,83%. Six months later the test was repeated, using lepromin A alone, on all of the 39 children and a reading was taken on the 27th day. The results of this second test indicated that the two groups showed an equivalent response, which was stronger than six months earlier (data comparable only for group II): Group I (14 children negative: 14,28%; positive

1 +: 57,14%; 2 +: 21,42%; 3 +: 7,14%. Total ulcerated nodules: 33,71%. Group II (25 children) negative: 12%; positive 1 +: 60%; 2 +: 12%; 3 +: 16%. Total ulcerated nodules: 24%. It was further observed that many nodules, though not ulcerated had a sclerosed appearance (taut thin skin, scaly or shagreened) in proportion of 35,71% (group I) and 40% (group II). In previous studies the positivizing action of BCG used alone had appeared to be greater than its combination with lepromin A; on the other hand, the response to lepromin A administered six months after the combined inoculation, appeared to be almost the same as in the subjects inoculated with BCG alone. In our opinion, therefore, it is not to be excluded that the lepromin A/BCG combination is effective, and may even determine a more specific and beneficial immunity against *K. leprae*, greater than the specific immunity conferred by BCG alone. In view studying the degree of specificity and of response which can be obtained with lepromin A, whether or not in association with BCG, plans are made for a study to be conducted on groups of subjects to different tests: the study would be based on clinical observations and laboratory research, including observation of the behaviour of T-lymphocytes against *M. leprae*. — Authors' summary

TARABINI-CASTELLANI, G.; TARABINI-CASTELLANI, G.L.; YAAQUB, C.X. VIL — Sobre inoculación de lepromina "A/BCG" en sujetos negativos a tres test lepromínicos sucesivos. *Rev. Lepr. Fontes, 18(1)*:51-55, 1981.

Three young women, none of them suffering from leprosy or TB of the lungs responded negatively to three consecutive lepromin-tests. Two of them were then administered a single mixture of lepromin A/BCG; when

PATOLOGIA, FISIOPATOLOGIA, BIOQUÍMICA PATHOLOGY, PHYSIOPATHOLOGY, BIOCHEMISTRY

CARDAMA, J.E.; GATTI, J.C.; CHAROSKY, C.B.; GATTI, F.; SELVA, J.S. Alteraciones óseas en la enfermedad de Hansen. *Rev. Argent. Dermatol.*, 62:95-101, 1981.

The authors submit a classification of bone pathology in Hansen's disease, discussing each of the entities from the clinical and ray point of view. Their relative frequency is discussed. Finally reference is made to differential diagnosis. The need of early detection is emphasized in order to avoid severe muti-

next subjected to the lepromin-test, the response was highly positive in the two subjects pre-treated with BCG (12 mm. ulcerated nodule), and uncertain in the third girl used as control (the nodule was in fact small, 4 mm., and left no scar). The authors intend to repeat the Mitsuda test until they are in a position to establish the length of time during which a positive response is obtained. They also intend to extend this research to a higher number of cases, in view of the fact that, so far, the inoculation of lepromin A/BCG as a single mixture (49 subjects) or separately but simultaneously (55 subjects) have produced no undesirable side effects or reactions other than those normally caused by BCG alone. — Authors' summary

DE WIT, M.; HUIKESHOVEN, H.; SOETERS, A.; EGGELTE, T.A.; LANDINGHEER, J.E.; LEIKER, D.L. ELISA inhibition technique for the demonstration of sulphones in body fluids. *Lepr. Rev.*, 52(3):216-220, 1981.

A new enzyme-linked immunosorbent assay (ELISA) for sulphones is described. The main tool is a dapsone-enzyme conjugate (E-DDS). The technique is compared with the one described earlier, in which the main tool is a specific antibody-enzyme conjugate (E-Ig). The E-DDS-based ELISA is 50% inhibited by as little as 4 ng DDS/ml, i.e. it is 7.5 times more sensitive for DDS than the E-Ig-based ELISA. In both ELISA's other sulphones cross-react with DDS, although the patterns are different. Cross-reactions with sulphone analogues, such as sulphonamides, do not occur. The sensitivity of the new ELISA is not reduced when E-DDS is lyophilized. A possible explanation for the difference in sensitivity of the two ELISA's is given, and the practical applicability of the new technique is discussed. — Authors' summary

lation of limbs in patients with leprosy. — Authors' summary

DASTUR, D.S.; PORWAL, G.L.; SHAH, J.S.; REVANKAR, C.R. Immunological implications of necrotic, cellular and vascular changes in leprosy neuritis: light and electron microscopy. *Lepr. Rev.*, 53(1):45-65, 1982.

The fine structural changes and, to a lesser extent, histochemical and histopatholo-

gical features of biopsy specimens of nerves from patients with non-lepromatous leprosy (mainly very early cases), or lepromatous leprosy (mostly treated cases), have been studied from the point of view of possible immunological response of the host tissues. Using electronmicroscopy and acid phosphatase or B-glucuronidase as markers of lysosomal enzymes, the survival and degradation of *Mycobacterium leprae* by Schwann cells and macrophages in the nerves is compared, both these cells utilizing the lysosomal machinery for such degradation, the macrophages more strongly, once the individual bacillary space has been breached. Longtreated lepromatous patients show relatively fewer intact and more degenerating bacilli. Both live and killed *M. leprae* appear to provide antigenic material, and plasma cells as well as activated macrophages harbouring considerable rough ER, probably produce antibodies and lysosomal enzymes. Impressive, fine structural changes in clinically well-preserved nerves from patients with very early non-lepromatous leprosy, as well as those with overtly tuberculoid and untreated or treated lepromatous leprosy, included the appearance of products of breakdown of nerve fibres, particularly of myelin, vacuolated macrophages among the fibres; and changes in the intra-neural blood vessels such as loosening of the endothelial-tight junctions, proliferation of basement membrane and exudation of plasmatous material perivascularly. On the basis of these findings 3 possible non-bacterial antigens producing damage to nerve parenchyma are considered: (i) myelinogenous proteins which are known to evoke allergic neuritis and further myelin destruction, as an autoimmune mechanism; (ii) the vascular basement membrane material which is mainly a protein, like reticulin; and (iii) plasma proteins, especially when containing high, circulating levels of antibodies. — Authors' summary

PAVITHRAN, P.; HANDA, F.; SIDHU, H.S.
A quantitative assay of porphyrins in leprosy patients. A spectrophotometric study. *Int. J. Lepr.*, 49(3):311-314, 1981.

Quantitative estimations of porphyrin in the blood, urine, and feces of 30 leprosy patients under treatment with dapson, ten untreated cases, and 100 normal subjects were done by Rimington's method. Dapsone had no adverse effect on porphyrin metabolism because none of the cases of leprosy under study developed statistically significantly raised porphyrin levels in the blood, urine, and stools. Although erythrocyte coproporphyrin levels were significantly higher

in leprosy patients than controls and urinary uroporphyrin levels significantly lower, most values fell within the normal range. These differences did not appear to have any clinical significance, and their cause remains unknown. — Authors' summary

RÉE, G.H.; MARTIN, F.I.R.; MYLES, K.; PELUSO, I. Hormonal changes in human leprosy. *Lepr. Rev.*, 52(2):121-126, 1981.

In an attempt to define the extent of disturbances of testicular-pituitary function in leprosy, a study has been carried out on an unselected group of male patients attending a leprosy treatment centre, who were not obviously suffering from testicular atrophy or gynaecomastia. — Authors' summary

SAHA, H. & LAHIRI, S.C. Pharmacologically-active mediators of hypersensitivity reactions in the blood of lepromatous patients with erythema nodosum leprosum. *Lepr. Rev.*, 52(4):315-320, 1981.

A bioassay technique was employed to study the mediators of hypersensitivity reactions (MHR) in the blood of 9 control subjects and 20 borderline and polar lepromatous patients including 8 patients with erythema nodosum leprosum (ENL). MHR were isolated from blood and studied on virgin rat uterus following the technique originally described by Brocklehurst. The contractions of uterus were recorded, compared with a stock bradykinin solution which was taken as the reference standard and the levels of MHR were expressed as ng bradykinin equivalent 1 ml blood. The mean level of MHR in lepromatous patients without ENL was 6.69 ng bradykinin equivalent 1 ml blood, but was significantly elevated in patients with ENL (18.09 ng bradykinin equivalent 1 ml). It was postulated that during the attack of ENL, *Mycobacterium leprae* or its broken products were released in the circulation containing high levels of antimycobacterial antibodies and thereby triggered the formation of circulatory immune complexes (CIC), activation of complement, deposition of CIC in various tissues and release of pharmacologically-active mediators of hypersensitivity reactions. — Authors' summary

SAOJI, A.M. & KELKAR, S.S. Qualitative studies of serum lactate dehydrogenase isoenzyme patterns in leprosy. *Lepr. Rev.*, 52(4):309-314, 1981.

Serum lactate dehydrogenase isoenzyme patterns were studied in polyacrylamide gel disc electrophoresis in 72 cases of leprosy to

define correlation with clinical varieties and presence of specific pattern. The cases were classified on the basis of history, clinical examination, bacterial and morphological indices, lepromin test and biopsy according to Ridley and Jopling into lepromatous 41: 15 active, 23 regressing and 3 ENL, borderline lepromatous 5 cases, borderline tuberculoid seven cases, tuberculoid 18 and indeterminate, 1 case. Serum LDH zymograms showed a diversity of patterns but there was no correlation with the clinical form of the disease. The commonest abnormalities affected isozymes 4 and 5. Thus in 28 cases both isozymes were depressed or absent and in a further 18 cases one or other of these isozymes were depressed or absent. 4 cases showed other abnormalities and in 11 cases each the LDH zymogram was normal or showed a generalized increase in density of all b LDH bands. In 25 healthy controls, 23 showed a normal isozyme pattern and in 3 LDH 5 was absent. — Authors' summary

SHILO, S.; LIVSHIN, Y.; SHESKIN, J.; SIPTZ, I.M. Gonadal function in lepromatous leprosy. *Lepr. Rev.*, 52(2):127-134, 1981.

Gonadal function has been studied in 14 male patients suffering from lepromatous leprosy. Eleven out of the patients showed reduction in testicular size. Eight had azospermia and four oligospermia. Gynaecomastia was noted in 12 patients. In only 2 recently discovered cases was this absent. Twelve of our patients had increased basal and peak FSH responses to LHRH. The LH response to LHRH was heterogeneous. Four patients had normal basal and peak levels; 4 had normal basal levels with an increased response to LHRH; 4 had elevated basal and peak responses and the remaining 2 had

elevated basal levels with normal peak responses to LHRH. Testosterone was normal in all patients while oestradiol 17 β and oestrone levels were significantly elevated. There was no correlation between basal and peak gonadotrophins and testosterone, oestradiol 17 β , oestrone or any of the clinical parameters. — Authors' summary

SRITHARAN, V.; BHARADWAJ, V.P.; VENKATESAN, K.; GIRDHAR, B.K. Dapsone induced hypohaptoglobinemia in lepromatous leprosy patients. *Int. J. Lepr.*, 49(3):307-310, 1981.

Dapsone has been used in various dermatological disorders and in leprosy. One of the main side effects of dapsone therapy is anemia, mostly hemolytic. We aimed at finding the effect of dapsone therapy on serum haptoglobin levels which could be an indirect evidence for intravascular hemolysis, supported by secondary investigations such as liver functions (serum lactic dehydrogenase, alkaline phosphatase, bilirubin), blood hemoglobin levels, urinary excretion of urobilinogen, and erythrocytes. As in other infectious conditions, haptoglobins were raised in untreated lepromatous cases, compared to controls ($p < 0.05$). Dapsone treatment of 100 mg daily for 14 days brought down the haptoglobin level significantly as compared to the untreated cases and the controls ($p < 0.05$). An elevated alkaline phosphatase and lactate dehydrogenase indicate some liver dysfunction following dapsone therapy. A significant drop in blood hemoglobin level and a concomitant increase in serum bilirubin, urinary excretion of urobilinogen, and a significant fall in the serum hemoglobin binding capacity (haptoglobin level) following treatment with dapsone are quite suggestive of mild intravascular hemolysis. — Authors' summary

GENÉTICA GENETICS

KIDSON, C. Population studies: potential and limitations for analysis of genetic and nongenetic factors in leprosy. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl.1): 177-185, 1981.

PATARROYO, M.E.; MOLINA, E. LONDOÑO, F.; BERNAL, D.; CARO, L.; VELASQUES, A.; SILVA, Y.; MOVA, R.; GUEVARA, J.; MENESS, A.; GONZALEZ, M. Identification of a particular B cell alloantigen associated with susceptibility to lepromatous leprosy. In:

SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1): 121-135, 1981.

The screening of a large group of multiparous sera against peripheral blood mononuclear cell subpopulations of patients with lepromatous leprosy resulted in the obtainment of a group of them recognizing the different HLA-DR specificities and some of the ones not yet defined and, at the same time, confirmed the results where no predominance in the frequency of any one of the alleles of the HLA-DR locus was found. A particular serum was found that reacted with 60% of lepromatous leprosy patients and 16% of the normal controls, and did not show any particular reactivity with tuberculoid leprosy of other diseases, giving a relative risk of 7.87; hence showing a high selectivity for a genetic marker associated with susceptibility to lepromatous leprosy. This particular serum did not show reactivity with anyone of the HLA-DR homozygous cell lines with all the D markers and did not show association with any HLA-A or B alloantigen. It is a genetic marker that shows autosomal dominant segregation pattern expressed on B-cell subpopulations and on a minor T-cell population, and it is highly associated with susceptibility to lepromatous leprosy. — Authors' summary

DE VRIES, R.R.P.; VAN EDEN, W.; VAN ROOD, J.J. HLA — linked control of the course of *M. leprae* infections. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1): 109-119, 1981.

The genetic factors controlling the course of *M. leprae* infections are not simple, not confined to HLA, and probably different and/or differently modulated by environmental factors in different populations. As far as HLA-linked factors are concerned: most evidence exists regarding the development of tuberculoid leprosy. This means that individuals prone to develop tuberculoid leprosy may be genetically different from those, who stay healthy after exposure to the bacillus. We realize that this is not in keeping with the ideas many epidemiologists have on tuberculoid leprosy. It seems that the HLA-linked factor(s) do not confer susceptibility to infection, but rather modulate the type of immune response to *M. leprae*. This is similar to observations in mice for other intracellular growing bacteria, such as *Listeria* and *Leishmania*, where the susceptibility to infection is not, but the development of specific immunity is linked to H-2, the equivalent of the HLA system in the mouse. — Authors' conclusions

HANSENÍASE EXPERIMENTAL, LEPROSY ANIMAL EXPERIMENTAL HANSENÍASIS, ANIMAL LEPROSY

FIELDSTEEL, A.H.; SATO, N.; COLSTON, M.J. Relationship between T-cell population in neonatally thymectomized Lewis rats and susceptibility to infection with *Mycobacterium Leprae*. *Int. J. Lepr.*, 49(3):317-323, 1981.

The neonatally thymectomized Lewis rat (NTLR) is highly susceptible to infection with *M. leprae*. However, a significant percentage of NTLR respond to infection with *M. leprae* in much the same way as do intact rats, yet show no evidence of residual thymus. To determine whether there was a correlation between the number of remaining T-cells and susceptibility to infection with *M. leprae*, a direct fluorescent antibody test was performed using a highly specific, absorbed antithymocyte globulin labeled with fluorescein isothiocyanate. Both total circulating

white blood cells and T-cells were significantly depressed in all NTLR examined. Although the greatest numbers of *M. leprae* were found in NTLR from the groups having the lowest percentage of circulating T cells, these groups also contained NTLR infected with small numbers of *M. leprae*. The groups containing NTLR with the highest percentages of circulating T-cells also contained animals with both moderate and severe *M. leprae* infection. The response of cultured splenic lymphocytes from NTLR and normal rats to the T-cell mitogen concanavalin A was investigated to determine whether there was any correlation between T-cell activity and susceptibility to *M. leprae* infection. The mean stimulation index for normal rats was five to ten times greater than indices for NTLR, but there were no significant differences between NTLR with a well developed, generalized infection

and those with a poorly developed infection. It was concluded that since there was no apparent relationship between T-cell depletion and susceptibility to infection with *M. lepra*, an additional, unknown mechanism was also involved. — Authors' summary

KAZDA, J. Occurrence of non-cultivable acid-fast bacilli in the environment and their relationship to *M. leprae*. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1): 85-91, 1981.

The fact that NC AFB resembling *M. leprae* have been isolated from the environment raises the following questions: what is the role being played by these NC AFB (which are capable of multiplying in environmental substrates) in the etiology of leprosy? Will continual ingestion of these AFB via drinking water or by direct contact with the environment lead to the outbreak of leprosy? In this connection I remind you of the findings of Dr. Sand from the leprosarium Reitgjærdet in Norway. At the 2nd leprosy congress held in Bergen in 1910 he postulated that leprosy is not transmitted by direct contact, but indirectly through a natural medium (soil) in which the causative organism undergoes a developmental stage. The AFB differing from *M. leprae* in some of their properties might be of significance as co-factors in the genesis of leprosy, or possibly lead to subclinical leprosy. — From the article

MATSUO, Y.; TATSUKAWA, H.; MURRAY Jr., J.F.; PETERS, J.H. Prothionamide and prothionamide-S-oxide in experimental leprosy. *Int. J. Lepr.*, 49(3) :302-306, 1981.

PTHSO was at least equal in activity to PTH, the parent drug, against *M. tuberculosis in vitro*, but the isonicotinamide derivative of PTH was completely inactive. Using the kinetic method with the mouse foot pad model, PTH and PTHSO given orally at the same doses were found to have approximately equal activity against *M. leprae*. — Authors' summary

SHEPARD, C.C. A brief review of experiences with short-term clinical trials monitored by mouse-foot-pad inoculation. *Lepr. Rev.*, 52(4) :299-308, 1981.

Beginning in 1964 we used mouse-foot-pad inoculations to monitor the loss in numbers of viable *Mycobacterium leprae* that occurs

when the patient begins antileprosy therapy. Our studies eventually involved patients at the US Public Health Service Hospital in San Francisco and the Leonard Wood Memorial facilities in Cebu, Philippines and mouse-foot-pad laboratories in San Francisco and Cebu, as well as Atlanta. We found that to monitor short-term therapeutic trials, the mouse-foot-pad method was the most efficient one available, in the sense that it required the smallest number of patients. All the results are compiled here in a standard form of presentation to facilitate comparisons between trials and regimens. A table is provided for statistical consideration of results such as these. — Authors' summary

SHETTY, V.P. & ANTIA, N.H. Degeneration and regeneration of unmyelinated fibers in experimental leprosy neuropathy. *Int. J. Lepr.*, 49(3) :324-330, 1981.

Electron micrographs have been presented illustrating several changes in the unmyelinated fibers in the sciatic nerves of mice with experimental leprosy neuropathy. An attempt has been made to postulate the sequence of changes. Based on these observations the possibility of myelination of parent unmyelinated fibers, following derangement of their Schwann cells and axons, has been discussed. — Authors' summary

WALSH, G.P.; MEYERS, W.M.; BINFORD, C.H.; GERONE, P.J.; WOLF, R.H.; LEININGER, J.R. Leprosy: a zoonosis. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings Lepr. Rev.*, 52(suppl. 1) :77-73, 1981.

We have observed naturally-acquired leprosy in three animal species: nine-banded armadillos, a chimpanzee, and a mangabey monkey. The frequency of the infection in armadillos in the southern United States provides sufficient evidence to allow designation of the armadillo as a reservoir for the disease in this area. Although the prevalence of the infection of chimpanzees and mangabey monkeys in the wild is not known, the existence of spontaneous leprosy in these species requires that they be given consideration in the epidemiology of leprosy in geographic areas inhabited by these animals. The infection found in all three species has been of the lepromatous or near-lepromatous type and therefore highly bacilliferous and contagious. The role that these species play in the transmission of leprosy to man must now be ascertained. — Authors' summary

CLÍNICA, DIAGNÓSTICO CLINICAL ASPECTS, DIAGNOSIS

DUNCAN, M.E.; MELSON, R.; PEARSON, J.M.H.; RIDLEY, D.S. The association of pregnancy and leprosy. I. New cases, relapse of cured patients and deterioration in patients on treatment during pregnancy and lactation — results of a prospective study of 154 pregnancies in 147 Ethiopian women, *Lepr. Rev.*, 52(3) : 245-262, 1981.

One hundred and fourteen women with leprosy and 33 women without leprosy were studied during 118 and 36 pregnancies respectively. Two healthy controls developed leprosy during the study period: 12 of 25 women with 'cured' tuberculoid leprosy relapsed with new lesions or nerve damage; 46 of 93 women with active tuberculoid or lepromatous leprosy showed increased activity of their leprosy either as a transient phenomenon (21 patients) or due to probable dapsone resistance (28 patients). These occurred chiefly during the third trimestre and are thought to be due to decreased host resistance and increased immunological instability during pregnancy. — Authors' summary

DUNCAN, M.E.; PEARSON, J.M.H.; REES, R.J.W. The association of pregnancy and leprosy. II. Pregnancy in dapsone-resistant leprosy. *Lepr. Rev.*, 52(3):263-270, 1981.

Sixty-seven women with lepromatous leprosy were studied during 70 pregnancies and followed up during lactation; 6 patients were already dapsone resistant and an additional 4 were receiving dapsone 100mg daily under trial conditions for suspected 'dapsone resistance'. During the study 28 patients including the 4 already suspected of having dapsone resistance relapsed with probable dapsone resistance. While failure in patient compliance was thought to be important in some cases, recurrent pregnancies, by providing periods of physiological suppression of cell-mediated immunity, could well be the factor in causing the progression of dapsone resistance among women. — Authors' summary

FFYTCHÉ, T.J. The eye and leprosy. Editorial. *Lepr. Rev.*, 52(2):111-119, 1981.

The use of pharmacological pupil tests in the early stages of ocular involvement will need to be evaluated, but more important is the possible role of pupil testing in the detection of the systemic neurological mani-

festations of the disease, to augment and perhaps even replace some of the existing clinical and laboratory tests. The therapeutic implications of contemporary ophthalmic management will also need to be reassessed. For example, whether the conventional use of steroid and mydriatic drops has any value in the early stages of chronic iritis, since the use of a paralyzing agent such as Atropine in an already paralytic situation has little to commend it on pharmacological grounds. On the other hand it might be possible to preserve the function of a failing dilator muscle by the administration of direct sympathetic stimulants in the same way that physiotherapy preserves the function of denervated voluntary muscle. The role of DOPA and its breakdown products in relationship to cataract formation and perhaps chronic iritis also merits further study. All these aspects of the condition require investigation and clinical research on a coordinated and if possible international basis. Long-term longitudinal studies are essential in the understanding of the natural history of the ocular manifestations, and pathological material is needed particularly in the study of the iris nerves which should be examined by both light and electron microscopy. Furthermore, it is hoped that studies on experimental infection in animals will provide some of the answers to the questions posed by clinical leprologists and pharmacologists. Finally a cautionary note must also be sounded — 'the history of leprosy is strewn with the wrecks of so-called cures'²⁹ and the literature is full of noble aspirations that have come to nothing. This should not, however, be allowed to impede the combined efforts of experimental and clinical research in the hope of at least advancing some way towards alleviating the intolerable situation that the blind leprosy patient must experience. — From the editorial

GATTI, J.C.; CARDAMA, J.E.; OCAMPO, J.C.; JAKIM, I.H.; BRUSCO, J.E. Consideraciones sobre la reacción reversal. A proposito de un caso. *Rev. Lepr. Fontilles*, 13 (1) :9-17, 1981.

KAUR, S.; KUMAR, B.; RATARIA, Y.P.; CHAKRAVARTI, R.N. Kveim test in leprosy: a clinical and histopathological evaluation. *Lepr. Rev.*, 52(4) :329-335, 1981.

The gross appearances and microscopic features of Kveim tests were studied in 21

North Indian leprosy patients. Of 6 patients with tuberculoid leprosy, 2 showed positive reactions and a close correlation between nodule formation and granulomatous histology. Of 15 patients with lepromatous leprosy, only 1 patient (who showed no evidence of a papule or induration at the Kveim test site) yielded a positive response microscopically. These findings suggest the occurrence of a low level of Kveim reactivity in North Indian leprosy patients. However, it is suggested that further studies with proper controls should be carried out to eliminate the possibilities of chance inclusion of subclinical leprotic skin lesion at the site of Kveim antigen injection and needle trauma in triggering or accelerating granulomatous inflammation. — Authors' summary

MASCARO, J.M.; FERRANDO, J.; GRATACOS, R. Lepromatous leprosy clinically localized to one-half of the face. Report of a case. *Int. J. Lepr.*, 49 (3): 315-316, 1981.

A case of lepromatous leprosy with lesions clinically localized to the left hemifacial area in a 28-year old Negro male is reported. The peculiarity of this case was the distribution of the lesions. The histopathology and other examinations showed typical lepromatous leprosy. — Authors' summary

NSIBAMBI, J.S. Leprosy and syphilis: a case report *Lepr. Rev.*, 52(2):171-173, 1981.

Leucoderma, i.e. hypopigmentation of the skin. This could be confused with hypopigmentation in tuberculoid, borderline or lepromatous leprosy. *Annular lesions* could be confused with similar lesions in tuberculoid

or borderline leprosy. *Papular lesions* can look like papules of lepromatous leprosy or BL. *Joint pains with fever and malaise*. These are also common manifestations in leprosy patients especially during reactions. *Uveitis*. Occurs in lepromatous leprosy as well. *Hoarseness of the voice*. Also found in cases of lepromatous leprosy. *Lymph node enlargement*. Is a common finding in leprosy especially during reaction. *Positive reagiu serological tests for syphilis*. Lepromatous leprosy is one of the causes of biological false positive tests for syphilis. Leprosy patients may be exposed to syphilis just like other people in any community and we should be alert to the possibility of confusing syphilitic manifestations with those of leprosy. — From the article

SHEKIN, J.; SABATO, S.; YOSIPOVICH, Z. La prueba de formación de arrugas provocadas por el agua tibia sobre las yemas de los dedos en el diagnóstico del mal de Hansen. *Rev. Leprol. Fontilles*, 14(2):149-164, 1981.

We have carried out the following test with 22 leprosy patients and 20 healthy people participating. All immersed their hands in water at a temperature of 38° - 40° centigrade for a period of half an hour. At the end of that time it was observed that whilst 100% of the uninfected persons showed considerable puckering of the skin on their fingers this manifestation was absent in 18 out of the 22 diseased participants. Certainly our test group was small. However if this experiment were to be carried out on a larger scale and should the results confirm our findings it would provide one more factor to consider in the diagnosis of leprosy. — Authors' summary

TERAPÊUTICA THERAPY

ACOCELLA, G. Rifampicin: a brief outline of its microbiological, pharmacokinetic and clinical features. *Quad. Cooper. Sanit.*, (1):21-24, 1981.

BASSET, A. Thio-urea compounds: a disappointing drug. *Quad. Cooper. Sanit.*, (1):15, 198L

Diphenylthiourea had the ambition of being as efficient as dapsone without having its drawbacks. The fast appearance of resis-

tance between 18 and 30 months has led to abandon this drug, which is not sold any more. — Author's conclusion.

BASSET, A. & SAMSOEN, M. The sulpho-namides: one of the best treatment of tuberculoid leprosy. *Quad. Cooper. Sanit.*, (1):13-14, 1981.

Long-acting sulphonamides are advised for allergic leprosy without bacilli or with

few bacilli. They prevent the functional disorders, which may result from other bactericidal drugs, from becoming worse. One estimates the prescription of sulphonamides to last at the moment for five years. — Authors' conclusion

BERTAMINO, R. Rifampicin in leprosy. *Quad. Cooper. Sanit.*, (1) :25-30, 1981.

Rifampicin is an antibiotic with high bactericidal power against *Mycobacterium leprae*, and within a few days it destroys contagiousness in the bacillary patients. At present, its optimum posology has not been determined yet, but it is thought to be 450-600 per day, in the adult. Unfortunately, its high price prevents a continuous and prolonged administration, thus RFP is used in association with other drugs at the beginning of treatment, for varying periods. We wonder whether administration at long pauses of high doses could develop RFP-resistant groups. It is advisable to associate RFP to other drugs *always* at full dosages at least the beginning of the therapy and for a period as *long* as possible, in order not to repeat with this drug the disadvantages caused by the administration of DDS at low dosages. — Author's conclusion

BOURGÉS, M. Summary of anti-leprosy treatments in France and in non-european countries: francophone areas. *Quad. Cooper. Sanit.*, (1) :91-93, 1981.

BROWNE, S.G. How to use clofazimine in treating leprosy. *Quad. Cooper. Sanit.*, (1) :31-34, 1981.

What is clofazimine? What is the activity of clofazimine against leprosy bacilli? In what kinds of leprosy is clofazimine most useful? Side effects.

BROWNE, S.G. The treatment of leprosy in England. *Quad. Cooper. Sanit.*, (1) : 87-88, 1981.

CHIARIA, W. Treatment regimen in the leprosy ward in the regional hospitals of Genoa, Italy. *Quad. Cooper. Sanit.*, (1) :101, 1981.

CIACCIO, I. The treatment of leprosy in Messina, Italy. *Quad. Cooper. Sanit.*, (1) :103, 1981.

ELLARD, G.A.; PEARSON, J.M.H.; HAILE, G.S. The self-administration of dapsone by leprosy patients in Ethiopia. *Lepr. Rev.*, 52(3) :237-243, 1981.

In a second investigation of the regularity of dapsone self-administration among outpa-

tients in Addis Ababa, the compliance of patients participating in a trial to assess the ability of combinations of dapsone, thiacetazone and rifampicin to prevent relapse with dapsone-resistant leprosy was compared with that of non-trial patients. Despite the considerable additional time spent on encouraging the trial patients to take their treatment regularly, their level of dapsone compliance was similar to that of the non-trial patients. Only about 60% of the 295 outpatients studied appeared to be ingesting their prescribed dapsone treatment regularly and the overall level of dapsone compliance resembled that encountered in the first investigation conducted 6 years previously. The taking of thiacetazone by the trial patients whose dapsone treatment was supplemented with this drug was unsatisfactory. The implications of these findings for the outpatient treatment of lepromatous leprosy are discussed. — Authors' summary

FABER, W.R. Immunotherapy and vaccination in leprosy. *Quad. Cooper. Sanit.*, (1) :79-83, 1981.

FREERKSEN, E. Chemotherapy of leprosy: rifampicin isoprodian. *Quad. Cooper. Sanit.*, (1) :35-39, 1981.

By analogy with tuberculosis, a form of therapy effecting final cure even of LL-cases after short-term treatment can be designated as "standard therapy". The combination Isoprodian + Rifampicin is such a standard therapy (the first in leprosy and simultaneously the third in tuberculosis). — From the article

GOLOSHCHAPOV, N.M. Diuciphon a new immuno stimulating antileprosy drug. *Quad. Cooper. Sanit.*, (1) :75-78, 1981.

HASTINGS, R.C. & JACOBSON, R.R. Rifampicin resistant leprosy. *Quad. Cooper. Sanit.*, (1) :47-54, 1981.

A patient with lepromatous leprosy whose bacilli were sulf one resistant was treated for 43 months with rifampin 600 mg daily and developed clinical relapse. Standard mouse foot techniques showed that the *M. leprae* from this patient were resistant to rifampin as well as dapsone, but were sensitive to clofazimine and ethionamide. A second patient with documented sulfone-resistant disease relapsed after 45 months on rifampin. His bacilli were also resistant to rifampin but were sensitive to dapsone as well as clofazimine and ethionamide. The rifampin-resistant mutant in the first patient probably

arose from a sulfone-resistant organism resulting in bacilli with resistance to both drugs. In the second patient the rifampin-resistance possibly developed from two mutants, one from a persisting sulfone-sensitive bacillus and one from a sulfone-resistant bacillus, resulting in two populations of organisms, both resistant to rifampin but one strain retaining sulfone sensitivity and one having sulfone resistance. Rifampin-resistance develops in *M. leprae* and there is no demonstrable cross resistance with clofazimine in the present strains. Rifampin-resistant *M. leprae* appear to be single step mutants while dapsone resistant *M. leprae* appear to arise as multiple step mutants. — Author's summary

HASTINGS, R.C. & JACOBSON, R.R. The treatment of leprosy in the United States. *Quad. Cooper. Sanit.*, (1) :109-114, 1981.

IMKAMP, F.M.J.H. Clofazimine (Iamprene or B663) in lepra reactions. *Lepr. Rev.*, 62(2):136-140, 1981.

In view of some confusion in the literature as to the value of clofazimine in the treatment of patients with Type 1 reactions, due to cell-mediated immune mechanisms, 10 patients with this type of reaction were treated with this drug. The results were unsatisfactory; clofazimine had to be either stopped or withdrawn in favour of treatment and control of the reactions with prednisolone. Two of these cases are described in detail. — Author's summary

JOHANNESSEN, B. The treatment of leprosy in Ethiopia. *Quand. Cooper. Sanit.*, (1) :123-124, 1981.

JOPLING, W.H. Combined therapy in leprosy. *Quad. Cooper. Sanit.*, (1) :55-58, 1981.

LEIKER, D.L. Therapy of leprosy in the Netherlands. *Quand. Cooper. Sanit.*, (1) : 89-90, 1981.

McDOUGALL, A.C. The sulphones (dapsone and acedapsonne) in the treatment of leprosy. *Quand. Cooper. Sanit.*, (1) :9-11, 1981.

NAAFS, B. Therapy of neuritis during reaction in leprosy. *Quad Cooper. Sanit.*, (1) :65-70, 1981.

NEGREL, A.D.; BAQUILLON, G.; DE LA PANOUSE, A.; DUCAM, M.; BAGA-DEC, R.; CHOVEL, M. La clofazimine et l'oeil. *Acta Leprol.*, (84) :31-37, 1981.

Les auteurs, après une étude exhaustive de la littérature, rapportent 57 observations de malades traités par clofazimine. Retrouvée dans la salive (61,4% des cas), les urines (59,14), la clofazimine est présente dans 82,4% des cas dans les larmes. Une étude sémiologique centrée sur la cornée a permis de retrouver dans 12 cas des atteintes qui semblent spécifiques. Cette étude préliminaire, annonce une enquête centrée sur la rétine et le nerf optique, dont personne n'a mis réellement en évidence l'atteinte jusqu'à ce jour. — Résumé des auteurs

PATTYN, S.R. Chemoprophylaxis against leprosy; a brief review. *Quad. Cooper. Sanit.*, (1) :71-73, 1981.

Dapsone chemoprophylaxis is difficult to implement on a large scale, it is only partially effective and comparable results can be obtained through regular treatment of index cases. These results could certainly still be improved by the use of rapidly bactericidal drugs, such as rifampicin and ethionamide, at least during an introductory phase of treatment. Acedapsonne prophylaxis is superior to dapsone chemoprophylaxis because of infrequency of administration, total supervision and effectiveness. However, its use will most probably be limited to very special circumstances such as those in the study of Sloane *et al.* (1972) and be inapplicable to large populations, spread over considerable areas with low prevalence and incidence rates of leprosy. In most areas of the world, leprosy control will continue to be based on case finding and treatment — with possible improvements of the drug regimens offered. What the part of immunoprophylaxis can be, remains to be determined. — Author's conclusions.

PEARSON, J.M.H. The use of corticosteroids in leprosy. Editorial. *Lepr. Rev.*, 52(4): 293-298, 1981.

Perhaps the major problems concerning the use of corticosteroids in leprosy are administrative. Most leprosy patients do not attend hospital clinics and are not seen by doctors. They attend small village clinics, and are seen by paramedical workers; increasing numbers of patients attend integrated clinics and are liable to be seen by staff who have little training, experience interest

in leprosy. Defining empirical corticosteroid regimens for treating reaction may be fairly simple. Ensuring that the need for corticosteroid treatment is recognized and that the drug is actually available is certainly difficult. Defining a chain of rapid referral to a centre with staff qualified to prescribe corticosteroids and able to supervise treatment will be very hard indeed. But corticosteroids are still the normal drugs to treat severe reactions and neuritis. If these tasks are avoided, patients will continue to become unnecessarily anaesthetic, deformed, and blind during the course of treatment. — *From the editorial*

PFALTZGRAFF, R.E. Therapy of leprosy in Gongola State, Nigeria. *Quad Cooper. Sanit.*, (1) :121-122, 1981.

SAINT-ANDRÉ, P.; BAQUILLON, G.; FERRACCI, C.; RIDEL P.R. Bilan des travaux sur l'immunothérapie dans la lèpre lépromateuse et borderline lépromateuse. *Acta Leprol.*, (84) :39-55, 1981.

Nous avons essayé divers produits; nous poursuivons dans cette voie avec deux autres produits. Tous les produits essayés se sont avérés efficaces d'abord employés seuls ce qui est l'unique façon de vérifier leur efficacité, puis en association avec la sulfone, puis par cures successives utilisant tantôt l'un tantôt l'autre, avant ou après polychimiothérapie comportant une cure de Rifampicine initiale. L'efficacité a été contrôlée in vitro par des TIMM. Après 7 ans de ces cures multiples tous les malades ont un index morphologique bas ou nul mais gardent un index bactériologique positif. En somme, nous pensons que, tous les moyens étant mis en oeuvre de façon prolongée chez les lépromateux, on continue à se heurter au problème des bacilles persistants et de l'élimination des débris acido-résistants par les macrophages. Le TIMM est un bon moyen de contrôle. Quand il s'aggrave, cela concorde toujours avec une rechute. Mais nous n'avons toujours pas de moyen sûr de contrôler la guérison chez les lépromateux. — *Des conclusions des auteurs*

SAINT-ANDRÉ, P.; FERRACCI, C.; BAQUILLON, G.; RIDEL, P.R.; BOUCHER, P. Traitement des érythèmes nouveaux lépromateux par le chloramphénicol — Comparaison avec la thalidomide — Étude statistique à L'Institut Marchoux. *Aeta Leprol.*, (84) :57-62, 1981.

Au terme de cette étude comparative quelques notions se dégagent: 1. L'activité spectaculairement rapide de la thalidomide

sur l'ENL ne comporte que de rares exceptions qui sont en relation avec l'existence d'une infection virale ou microbienne, déclenchante et dont la persistance relance sans cesse l'ENL. 2. Le chloramphénicol, bien que moins rapidement actif, l'est régulièrement dans plus de 80% des cas. Donc, si la thérapeutique idéale reste la thalidomide, le chloramphénicol est un succédané efficace chez la femme en période d'activité génitale et lorsqu'on ne possède pas cette drogue qui n'est pas toujours facile à se procurer. Enfin tout foyer microbien doit être traité pour permettre à la thalidomide d'agir avec toute son efficacité. — *Commentaires des auteurs.*

SAINT-ANDRÉ, P. Criteria and therapeutic forms followed in the Republic of Mali. *Quad. Cooper. Sanit.*, (1) :115-120, 1981.

SAYLAN, T. & OZIS, S. Criteria and therapeutic forms followed in Turkey. *Quad. Cooper. Sanit.*, (1) :105-107, 1981.

SHESKIN, J. & YAAR, I. Neuritis reaccional del nervio cubital y talidomida. *Rev. Leprol. Fontilles*, 13(3):303-313, 1981.

The motor conduction velocity of the ulnar nerves was examined repeatedly in 34 patients with lepromatous leprosy. In patients with active lesions the reduction in velocity paralleled clinical deterioration. In "burned-out" control patients, who had never suffered from leprosy reaction, the conduction velocity remained slow and unchanged over many years. Twenty-six of 34 patients suffering from leprosy reaction received thalidomide treatment over a period of 6-13 years in order to suppress the reaction, with good effect. In none of these 26 patients neurotoxic disturbances were found. — *Authors' summary.*

TERENCIO DE LAS AGUAS, J. Experience and present strategy in the treatment of leprosy in Fontilles, Spain. *Quad. Cooper. Sanit.*, (1) :95-100, 1981.

To summarize, we have two efficient drugs, that is sulphones and clofazimine, which we prefer to use together. We think that RFP is not advisable for a long period, because, as a monotherapy to achieve bacteriological inactivity, it needs more time than sulphones or clofazimine. To conclude, in the therapy of Hansen's disease we still have drugs which are far from being the best to achieve a rapid recovery and the desired elimination of this disease, and the rehabilitation of those suffering from it. — *From author's conclusions*

VIRNO, G. Antituberculosis drugs in leprosy. *Quad. Cooper. Sanit.*, (1) :17-20, 1981.

Isoniazide. Side-effects. Use in leprosy Streptomycin. Side-effects. Use in leprosy Ethambutol. Side-effects. Use in leprosy Cycloserine. Side-effects. Use in leprosy Viomycin. Side-effects. Use in leprosy Kanamycin. Side-effects. Use in leprosy Rifampicin. Use in leprosy.

WARNDORFF, J.; BOURLAND, J.; PAT-TYN, S.R. Follow-up on short-course 2 months' rifampicin treatment of pauci-bacillary leprosy. *Lepr. Rev.*, 6.4(1):9-17, 1982.

The results of follow-up for between 1 and 3.5 years of paucibacillary leprosy patients treated with 8 weekly doses of 900 mg rifampicin are presented. In the pilot trial in Burundi, 8 patients were followed for 3 years and more. All did well, including 1 patient who developed a reversal reaction. In Addis Ababa, 3 patients on rifampicin developed neuritis at 9-18 weeks after the start of therapy and were excluded from the trial. Three patients treated with rifampicin were followed for 3 years and 5 for at least 2 years. All patients had their lesions healed or considerably improved, there were no relapses and no adverse effects due to the intermittent administration of the drug. Three patients in the dapsone-treated group were followed for 3 years and 2 for at least 2 years. In this group 1 patient developed severe neuritis

and 2 others, who absconded for about 2 years, did not improve clinically, or worsen. Compared with standard dapsone therapy, rifampicin treatment did not accelerate healing; neuritis was not more frequent but it occurred much earlier. Some points to be taken care of in similar future trials are discussed. — Authors' summary

WHEATE, H.W. Dapsone resistant leprosy as seen in Africa. *Quad Cooper. Sanit.*, (1) :41-46, 1981.

Introduction — Pathology — Clinical features. The management of cases suspected of having dapsone resistant leprosy primary resistant leprosy. Prevention and treatment — Practical implications.

WATERS, M.F.R. Therapy of leprosy reactions. *Quad. Cooper. Sanit.*, (1) :59-63, 1981.

The treatment of reactions (both ENL and reversal) is complicated and requires skill and knowledge of the local situation. Every control scheme should have a specialized referral centre for severe reaction patients, staffed by a leprologist possessing the necessary drugs, training and experience. Treatment schedules are presented for severe and for mild ENL and for severe and for mild reversal reaction which could act as guidelines for most leprosy control schemes. — Author's summary

CIRURGIA, FISIOTERAPIA, REABILITAÇÃO FÍSICA SURGERY, PHYSIOTHERAPY, PHYSICAL REHABILITATION

BOUCHER, P. L'opération dite du "Lasso" de Zancolli ou Zancolli V dans le traitement palliatif des griffes cubitales et medico-cubitales lépreuses. *Acta Leprol.*, (84) :69-74, 1981.

22 griffes cubitales ou médio-cubitales, souples ou enraidies, d'origine lépreuse ont été opérées par l'opération de Zancolli V. Le tendon fléchisseur commun superficiel de chaque doigt, sectionné et extériorisé à travers un orifice de la gain fibreuse des fléchisseurs est fixé à lui-même après avoir décrit une boucle autour de la poulie proximale. C'est une intervention simple et rapide. Les résultats sont bons dans les griffes souples et

moyens dans celles qui sont enraidies. Résumé de l'auteur.

BRANDSMA, W. Basic nerve function assessment in leprosy patients. *Lepr. Rev.*, 52(2) :161-170, 1981.

Nerve function assessment is important in the prevention of deformities in leprosy patients. Simple nerve function tests are presented which will make it easy for the leprosy worker to make records of nerve damage and will enable him to evaluate changes in nerve function. — Author's summary

MARTINEZ JIMÉNEZ, A. & RUIZ, L. Manejo de ulceras de piernas con injertos laminares en enfermos de Hansen. *Rev. Leprol. Fontilles*, 19(3):295-301, 1981.

Eight leprosy patients have been studied, as follows: 7 were lepromatous and one was indeterminate, all had leg ulcers with an evolution period, average of 12 years, it has been taken into account, the clinical study and the laboratory examinations (hemoglobin, total and partial albumin, cholesterol, triglycerin), bacillus activity and bacteriology of the ulcers, which were treated with interposed lamina grafts. — Authors' summary

VAN DROOGENBROECK, J.B.; COURBIL, L.J.; BOUCHER, D.; CARAYON, A. Evolution actuelle de la chirurgie palliative en lèpre. *Acta leprol.*, (82) :57-75, 1981.

Le procédé de choir pour la correction du lagophthalmos (paralysie faciale haut) reste le Gillies. Les muscles de la loge postérieure de la jambe transférés rétablissent l'équilibre fonctionnel du pied. Les indications de la simple ou de la double activation se sont précisées. Pour la main des procédés

passifs ont été employés sans convaincre. Quant aux corrections actives de la griffe, les physiothérapeutes nous ont indiqué leurs préférences. Un procédé nouveau de Zancolli V nous a donné dans 42 cas des résultats constamment favorables qui sont à confirmer par les suites éloignées. Pour la correction du pouce le Burkhalter nous donne actuellement les meilleurs résultats qui sont également à confirmer par les suites éloignées. — Conclusions et résumé des auteurs

VERMA, N. An assessment of the usefulness and acceptability of eye shields under field conditions. *Lepr. Rev.*, 52(2) :141-149, 1981.

Fifteen patients with varying degrees of lagophthalmos and neuroparalytic keratitis were fitted with eye shields made in the field, and an assessment at 1 and 2 weeks has shown that there is a definite improvement in the eye condition and that community's acceptance of such a procedure is good. For introduction into the present leprosy control programmes, an evaluation of the paramedical workers has shown that they require only minimal additional training. — Author's summary

EPIDEMIOLOGIA, PREVENÇÃO EPIDEMIOLOGY, CONTROL

CAP, J.A. The epidemiological situation in Africa. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :53-60, 1981.

The estimated prevalence rate for Africa is very high, but relatively little information is available at least on the spot. Leprosy is mainly concentrated in the Western, Central and Eastern parts and is characterized by a low proportion of lepromatous cases and a relatively low proportion of disabilities. The occurrence of dapson resistance is of the same magnitude as in other parts of the World and if no measures are taken, there is a great risk in producing primary resistant multibacillary and paucibacillary cases. Author's conclusions

CHANDRA, S.; SINGH, G.; KAUR, P. Role of school survey in the control of leprosy. *Indian J. Dermatol. Venereol. Lepr.*, 47(1):42-44, 1981.

Students attending high school in two community blocks in district Varanasi were examined for evidence of leprosy. Among the 995 students surveyed, 20 cases were detected. These was no case of lepromatous leprosy. In endemic areas, repeated examination of school children will help considerably in the early detection of leprosy and its control. — Authors' summary

CHRISTIAN, M. The epidemiological situation of leprosy in India. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :35-42, 1981.

Leprosy today continues to remain an important public health problem in the Indian sub-continent. Lack of accurate knowledge regarding its epidemiology and limited resources to investigate and combat the disease are some of the factors hindering progress in

our efforts at containment of disease transmission. The geographical distribution of the disease shows great variation in pattern with a tendency to focalization. It seems to have reached the long drawn out plateau phase in most of the States in this sub-continent. — Author's conclusion

FINE, P.E.M. Problems in the collection and analysis of data in leprosy studies. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) : 197-206, 1981.

Leprosy is sometimes defined as a chronic disease affecting skin and nerves and attributable to *Mycobacterium leprae*. It might also be described as a rare disease of varied and controversial manifestations, found mainly in poor and distant populations, and characterized by ostracism of cases, fear in contacts, neglect by administrators, hyperbole in fund-raisers, a blind eye in the medical establishment and dogma among its committed workers. There in lie many of the problems in its study. The following suggestions may help us to surmount some of them: a major international collaborative study should be encouraged to assess comparability of diagnosis and classification between different clinicians and histopathologists. Publications should be fully explicit on procedures for diagnosis and classification of cases. Greater emphasis should be placed upon improving and documenting field ascertainment methods than on institutionalizing poor routine data. Immunological measures of infection should be applied in population-based studies of the epidemiology of *M. leprae* infection. Case control methods should be applied to studies of risk factors for infection and for disease. — Author's conclusions

GOMES, A.C.B. & BOSZARD, L. Controle e tratamento da hanseníase: Relato da experiência obtida na Unidade Sanitária de Esteio, pelo Serviço de Dermatologia da Secretaria da Saúde e do Meio Ambiente do Estado do Rio Grande do Sul. *Bol. Saúde*, 8:17-20, 1981.

Foi nosso propósito divulgar uma experiência singela no tratamento da hanseníase e que se tem mostrado efetiva, através de um diálogo franco, honesto e esclarecedor, dissipando quaisquer temores ou preconceitos infundados e obscuros, obtendo-se de uma comunidade o máximo de recurso na assistência aos pacientes de hanseníase, recuperando-os para o convívio familiar e social, permitindo que os mesmos voltem a exercer

atividades que os dignifiquem e os tornem novamente elementos úteis e atuantes em sua vida diária. — Do artigo

HARAHAP, M. Leprosy in Indonesia. *Lepr. Rev.*, 52(2):156-159, 1981.

The leprosy control programme in Indonesia is discussed. The epidemiological situation of leprosy is assessed from the statistics of the registered cases and through comparison of several leprosy surveys. In a certain province leprosy showed a marked decline, while in other provinces the prevalences are still high. We need to recognize the limitations of the present measures employed to control leprosy, and to accept that if we want to control the point of eradication, the only hope lies in immunization. — Author's summary

IRGENS, I.M. Epidemiological aspects and implications of the disappearance of leprosy from Norway; some factors contributing to the decline. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 62 (suppl. 1) :147166, 1981.

First of all the Norwegian experience demonstrates the need for and benefit from an adequate system for acquisition of information on leprosy patients. Such a system is important from a practical preventive as well as from a general epidemiological point of view. Thus, the Norwegian experience supports the initiative taken by WHO in establishing information systems in countries where leprosy is prevalent today. Furthermore, taking into consideration the often highly insufficient nutrition found in endemic areas today, the Norwegian experience suggests a systematic approach towards improved nutritional conditions in such areas, evaluating its effects in the perspective of leprosy control. Finally, the possible epidemiological implications of the finding of *M. leprae*-like organisms in the environment should be further pursued. Both in the evaluation of nutritional programmes and in the analyses of the epidemiological significance of environmental mycobacteria, there is a great need for immunological tools. The implementation of such tools in epidemiological settings seems necessary to clarify most of the problems challenging leprology today. — Author's conclusions

ITO, T. The epidemiological situation in south East Asia. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :43-51, 1981.

JOB, C.S. Leprosy — the source of infection and its mode of transmission. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) : 69-76, 1981.

Leprosy is a communicable disease caused by *Mycobacterium leprae*. Two principal factors involved in the transmission of the disease are the source of infection and the mode of entry. Although a lot is known about the source of *M. leprae*, the mode of transmission, till date, is shrouded in mystery. In this paper, I shall attempt to present to you a review of the relevant literature on the subject and add some of my own observations. — *From the article*

LECHAT, M.F. The torments and blessings of the leprosy epidemiometric model. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1): 187-196, 1981.

The major difference in the model approach to tuberculosis and leprosy in that in leprosy we cannot identify infection from disease. This black box, which can be called latency or incubation period or by whatever term, cannot be recognized. This from a methodological point of view has revealed a major difficulty. The development of an appropriate test to recognize leprosy infection would drastically the prospects of epidemiological research in leprosy. It would then become possible to study how, the disease is transmitted in the population, who get it, when, and under what circumstances. This if necessary confirms once more that epidemiology cannot be dissociated from basic research, and that its achievements are closely dependent on progress in other fields, in this case immunology. — Author's conclusions

LECHAT, M.F. Leprosy at the interface between epidemiology and basic research. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1): 299-304, 1981.

LORETTI, A. & GARBELLINI, D. Leprosy in the Cape Verde islands. *Lepr. Rev.*, 52(4):337-348, 1981.

After a general profile of the country, information is given concerning the history

of leprosy in the Cape Verde Islands, with data related to the control activities of the years 1950-77. Finally the authors present the data collected during the first 2 years of activities under the new National Leprosy Control Project. Authors' summary

MOTTA, C.P. The epidemiological situation in the Americas. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings Lepr. Rev.*, 52 (suppl. 1) : 61-68, 1981.

The outstanding epidemiological characteristic of leprosy in the Americas is as follows: with the exception of a few countries or territories, half the diagnosed cases are multibacillary forms. The prevalence in children (age group 0-14 years) is less than 10% of the total cases. Up to the 1950's most of the cases detected came from rural areas (communities with fewer than 2,500 inhabitants or dispersed population). At the present time, there is a reversal of the situation because of the phenomenon of "accelerated urbanization" in Latin America. In general, the frequency of the disease is higher in areas of warm climate and high precipitation, but there are exceptions: for instance, the Colombian and north Ecuadorian Pacific coasts. Some areas of the Andean Cordillera (Colombia, Venezuela) with cool and medium humid climate have relatively high prevalence rates. The leprosy endemicity in the Americas is low when compared with the African or Asian foci. There is a patchy distribution of the cases. Some limited foci (Paraguay, Colombia, Brazil) have prevalence rates up to 24 per 1000 and, in some situations, this pattern cannot be due to factors of land settlement or migratory movements of the population. In most of the countries/territories the endemicity is not declining, even when the recommended policies of control are applied. — Author's summary

REES, R.J.W. Non-specific factors that influence susceptibility to leprosy. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52(suppl. 1): 137-146, 1981.

Leprosy is undoubtedly a serious risk factor in pregnancy, necessitating optimum chemotherapy for women with active leprosy and prophylactic therapy for those with "cured" leprosy, and for all to be fed a high protein diet throughout pregnancy and lactation. — Author's conclusions

SAIKAWA, K. The effect of rapid socio-economic development on the frequency of leprosy in a population. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Geilo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :167-175, 1981.

In Japan possibility of leprosy transmissions in the *community* appeared to have been successfully minimized by rather strict segregation policy started 50 years ago backed by the huge budgetary allocation by the national government. This whole process took place before Japan achieved rapid economic growth and also before the start of chemotherapy treatment. Okinawa and Taiwan, on the contrary, achieved reduction of incidence of leprosy after the start of chemotherapy treatment, mostly on out-patient basis, and also at the time of rapid socio-economic improvements. Rapid socio-economic development brought improvements in standard of living and social environment, particularly of housing situation. These, together with decrease in the size of family, greatly contributed toward removing overcrowded living situation. As the result, the chances of household contact in rural area, where the prevalence rate was high, was reduced, which in turn possibly contributed considerably to reduce the number of new leprosy patients. In summary, it may be reasonable to assume when there is an active leprosy control program to prevent the infection in the community, socio-economic development makes notable contribution to reduce chances of infection, thus reducing leprosy in community. — Author's conclusion

SANSARRICQ, H. Leprosy in the world today. In: SYMPOSIUM ON THE EPIDEMIOLOGY OF LEPROSY, Gelo, Noruega, 1981. *Proceedings. Lepr. Rev.*, 52 (suppl. 1) :15-31, 1981.

In summary, the constraints for leprosy control result mainly at present from inadequate infrastructure, from inadequate methodologies for case detection, and the severe shortcomings of dapsone monotherapy. Possibilities for improving treatment methods already exist by means of combined chemotherapy, but there has been difficulty in putting them into practice. It might be possible, however, to solve these difficulties by intermittent administration of drugs. At the same time, by increasing the number of drugs in the regimens, their efficacy could be increased. On the whole, based on presently available concepts, the development of an effective antileprosy vaccine remains an essential requirement for an effective strategy for leprosy

control. As for what WHO intends to do, in close collaboration with its Member States during the next decade, this can be summarized as follows. Improved technologies for case detection, especially early detection, treatment with chemotherapy, case holding and contact follow-up will be promoted through the development of more effective control planning, programme management and training. Field application will be encouraged of significantly more effective control methods expected from the increased efforts in leprosy research. Curricula incorporating proven approaches will be constructed for the training of all levels of health workers — from the medical undergraduates to the primary health care personnel. The participation of national experts will be promoted in management and evaluation. Collaboration with international, bilateral and voluntary agencies will be encouraged. According to the progress made, operational studies on vaccination will be initiated. — Author's conclusions

SERRUYA, J. Hanseniae no município do Rio de Janeiro. *An. Bras. Dermatol.*, 56 (4) :251-254, 1981.

Official records of the municipality of Rio de Janeiro show 7368 cases of hanseniasis, of which 5573 are from municipal health centers and 1795 from other services including private offices. For many reasons we are sure these numbers are well under reality. As to clinical forms, 46.33% were Virchowian, 33.3% tuberculoid, 15.72% indeterminate and 4.65% borderline. The prevalence: 1.3% per 1000 inhabitants is one of a high endemicity. — Author's summary

VAN PRAAG, E. & MWANKEMWA, S.A. A prevalence survey on leprosy and the possible role of village 10-cell leaders in control in Muheza District, Tanzania. *Lepr. Rev.*, 53(1):27-34, 1982.

A total population of 15,029 people in 12 villages was screened for leprosy. The selection of the villages in 2 divisions of Muheza District was based on a proportional cluster sampling method. An overall prevalence estimate of 7.9 per 1,000 was found. Prevalence per village ranged from 0 to 25.8 per 1,000. The prevalence was related to age and sex and a strong male preponderance was found. The type of leprosy was determined and 55% were new cases. Community participation via village 10-cell leaders in assessed with regard to their ability to assist in leprosy control. Their use in promoting drug compliance of the patients and in diminishing the pool of as-yet-unidentified and possibly infectious cases in discussed. — Authors' summary