Lepr Rev (1980) **51**, 101–110

Abstracts

Erratum. In reference number 81 of *Leprosy Review.* **50**, Number 3, September 1979, (page 265), HARBOE, M. *et al.*, 'Formation of antibody against *Mycobacterium leprae* 7 in armadillos. *J Med Microbiol,* v. 11, 525–535, the year was omitted; it is 1978).

131. NOUSSITOU F. **Some aspects of tuberculoid leprosy and chemotherapeutic trials.** *Acta Leprologica,* 1979, v. 74. 1–321.

On a world wide basis the proportion of tuberculoid forms of leprosy is calculated as being about 50%. In the majority of these patients the prognosis is favourable.

The objective of the paper is to establish whether effective therapeutic results can be obtained regularly with short-term mono- or combined therapy.

The history of classification of tubrculoid leprosy is discussed in some detail.

The study of Souza Lima and Souza campos (*Lepro Tuberculoide* 1947, Sao Paulo, Ed. Renasenfa, see also *IJL* **18**, 1955, 133) is quoted as one of the few long-term follow-up studies on the prognosis of different forms of tuberculoid leprosy.

A comparison is made with the Ridley-Jopling classification, including the lepromin test.

The hypothesis is postulated that Ridley's TT-group has an excellent prognosis and no relapse after a reasonably short period of effective therapy.

For trial, five therapeutic regimens are proposed:

Regimen I – 100 mg dapsone + 100 mg clofazimine daily for 2 months, followed by 100 mg dapsone for 4 months.

Regimen II – 100 mg dapsone + 300 mg rifampicine daily for 2 months, followed by 100 mg dapsone for 4 months.

Regimen III – 100 gr dapsone daily + 1 gr streptomycin twice weekly, for 6 months.

Regimen IV – 100 mg dapsone + 350 mg prothionamide daily for 6 months.

Regimen V – 100 mg dapsone daily for 12 months.

It is proposed to adopt the 'Thelep Standard protocol for chemotherapeutie trials' (designed for trials in lepromatous leprosy) with some modifications e.g. omission of mouse-tests and bacteriological follow-up throughout the trial. The selection of patients should be based on chemical and histopathological criteria and on the lepromin-test. The value of the post lepromin scar should also be assessed. The number ot the patients allocated to each regimen should be at least 40 and complete observations should be made in at least 30 patients, for at least 3 years. As many patients as possible should be followed for 5 years.

From the statistical point of view a considerably greater number of patients would be desirable, but this may not be feasible.

The final objectives of the trials are to have those regimens proved to be effective introduced on a wider scale, for treatment of TT and BT leprosy and eventually for indeterminate leprosy as well.

This would allow release from control of a large proportion of the leprosy population and, consequently, a closer follow-up of multibacillary patients would be possible.

It is expected that the regularity of attendance and of drug intake will improve with the short-term treatment. Patients with drug resistant strains of *M. leprae* will be

treated more effectively.

Although more expensive drugs are proposed, it is thought that the overall costs of treatment will be reduced due to its short duration.

The paper should be read in full by everybody who is contemplating drug trials in non-lepromatous leprosy.

D L Leiker

132. NSANZUMUHIRE, H *et al.* **A study of the use of community leaders in case findings for pulmonary tuberculosis in the Machakos District of Kenya.** *Tubercle,* 1977, v. 58, 117–128.

133. ALUOCH JA *et al.* **A second study of the use of community leaders in case finding for pulmonary tuberculosis in Kenya.** *Tubercle,* 1978, v. 59, 233–243.

These two papers describe the results so far achieved in a systematic investigation of different methods of finding active cases of tuberculosis (smear and/or culture positive) amongst persons over six years of age in the Machakos District of Kenya. The methods being investigated are:

1. Interrogation of community elders.
2. Interrogation of household heads during home visits.
3. Examination of cases on the District tuberculosis register.
4. Examination of cases registered as having chronic pulmonary disease.
5. Examination of close contacts of registered cases of tuberculosis.
6. Re-interrogation of community elders after an interval of one year.

A random sample of 20% of the households in the area was drawn and sputum specimens collected and examined from 98% of them. Prevalence of cases in the community was estimated by combining the results of sputum examination amongst suspects identified by elders and household heads with the results of sputum examination of non-suspects in the random sample. The total prevalence revealed was 6.9 per 10,000 persons aged 6 or more, the 95% confidence limits being 3.9 and 9.9 per 10,000.

The initial approach to the elders identified 30% of the smear positive cases and 16% of the culture positive cases in the community – and was relatively easy to carry out.

The interrogation of heads of households, a much more time consuming investigation, yielded 70% of the smear positive and 50% of the culture positive cases. Unfortunately the majority (§§) of the cases identified through interrogation of the elders were previously treated cases and in the opinion of the authors, the work involved in interviewing household heads renders that method impractical for routine use.

In the second survey elders again identified mainly old cases but did name some new sputum positive cases in addition.

Re-examination of cases previously registered in the district tuberculosis register yield six positive cases of 63 examined.

The bateriological examination of household contacts gave only 3 cases among 612 contacts.

Investigation of the effectiveness of requestioning elders, examination of close contacts and identification of cases amongst those attending local dispensaries is continuing.

These studies are useful as a model for a systematic approach to the determination of the most cost effective methods of case finding in a given community and the original papers should be consulted by anyone planning a similar, and much needed, study of leprosy case finding.

W F Ross

134. GUSSOW, ZACHARY. **Notes on the History of Leprosy in Louisiana.** *Southern Med J* 1979, v. 72, No 5. 600–604.

In the late 1880s it became apparent in Louisiana that leprosy was endemic in the southern part of the state. Initially, the intention was to establish a leprosy hospital

in the city of New Orleans, close to medical facilities, and where the bulk of the patients were to be found. The establishment, instead, of an isolated leper colony at the run-down plantation at Carville, 85 miles up-river, was the result of community indifference, misunderstanding of the nature of the disease, and expected depreciation of property values. Fear of the disease was a secondary matter. The practice of locating residential facilities for the chronically ill at long distances from the centers of physician practice and medical research continues to this day. Interestingly, the arguments that permit this to happen have not changed appreciably from those of a century ago.

(Author's summary)

1. MICROBIOLOGY

135 DAVID HL CLAVEL S, CLEMENT F, MEYER L, DRAPER P, BURDETT IDJ. **Interaction of *Mycobacterium leprae* and mycobacteriophage D_{28}.** *Ann Microbiol (Inst. Pasteur),* 1978, v. 129B, No 4, 561–570.

This study of the interaction between *Mycobacterium leprae* and the mycobacteriophage D_{29} showed that the viruses caused a patchy damage of cell wall structure and the accumulation in the host of internal crystalline structures. Whether the observed ultrastructural alterations were caused by the replication of D_{29} was not clear. Mitomycin C also caused the accumulation of crystalline structures in *M. leprae.'*

136. KAWAGUCHI Y, MATSUOKA M, KAWATSU K. **Pathogenicity of cultivated murine leprosy bacilli in mice. 2. The pathogenicity of bacilli from smooth colonies.** *Jap J Exp Med,* 1978, v. 48, No 3, 211–217.

'. . . bacilli from smooth colonies are generally much less virulent for mice than those from rough colonies of Hawaiian-Ogawa strain and those of the original Hawaiian strain.'

[For part 1 see *Trop Dis Bull* 1978, v. 75, abstr. 2498.]

137. OKADA S, NISHIURA M, OGAWA T, MORI T. **Electron microscopic study of colonies of *Mycobacterium lepraemurium.*** *Int J Lepr,* 1979, v. 46, No 4, 364–371.

2. IMMUNOLOGY, PATHOLOGY

138. SYED MAROOF SAHIB H, VELLUT C. **Some observations on skin reactions induced by lepromin and four other mycobacterial antigens.** *Lepr. India,* 1978, v. 50, No 4, 579–587.

A study on skin reactions induced by *Mycobacterium leprae* lepromin and other mycobacterial antigens was done on 47 leprosy patients of Hemerijckx Leprosy Centre, Polambakkam. There was no exact correlation between lepromin and any 1 of 4 antigens in all types of leprosy.

M F R Walters

139. BJUNE G. **Comparison of various preparations of *Mycobacterium leprae*** and other mycobacteria by lymphocyte stimulation. *Int J Lepr,* 1979, v. 46, No 4, 386–393.

140. FUMAROLA D, JIRILLO E, DE SANTIS A, MONNO R, MUNNO I. **Leukocyte inhibiting factor (LIF) production from human lymphocytes of healthy donors stimulated by armadillo's lepromin.** *Ann Sclavo,* 1978, v. 20, No 1, 33–40.

141. SHEPARD CC, WALKER LL VAN LANDINGHAM R. **Heat stability of *Mycobacterium leprae* immunogenicity.** *Infection & Immunity,* 1978, v. 22, No 1, 87–93.

'The protection provided to mice by vaccines administered intradermally was measured after footpad challenge with Mycobacterium leprae. The protection offered by *M. leprae* suspensions was not decreased when the

vaccines were killed by 60°C heat or at the higher temperatures tested, which included 215°C (autoclave). Even highly purified suspensions retained their immunogenicity. In contrast, the vaccine protection provided by intradermal *M. bovis* (strain BCG) was markedly reduced when heated to 60°C. The enlargement of the lymph nodes regional to the intradermal vaccines was measured and found generally to parallel the vaccine protection provided by *M. leprae* and by BCG.'

142. CARAYON A. Les névrites microangiopathiques dans la lèpre. **[Microangiopathic neuritis in leprosy.]** *Hansenologia Int,* 1977, v. 2, No 1, 15–23.

'Besides the typical hansenic neuritis characterized by a hypertrophic nerve associated with the already well known wide range of neural impairment, there are also microangiopathic lesions. Microangiopathic neuritis have been described by the author together with Camain and Maydat, in borderline and reactional (ENL) cases (1966–1969). [*Trop. Dis. Bull.*, 1970, v. 67, abstr. 1845.]

From the author's observations in the years 1970–1976, *primary* and *secondary, acute* and *slow* varieties of microangiopathic neuritis could be identified and systematized, both in borderline and ENL cases.

'The clinical, immunological pathological and therapeutical aspects of these forms of microangiopathic neuritis are presented.'

143. WAGER O, PENTINEN K, ALMEIDA JD, OPROMOLLA DVA, GODAL T, KRONVALL G. **Circulating complexes in leprosy studied by the platelet aggregation test. The platelet aggregation test and its relation to the Rubino test and other seroimmunological parameters in 135 patients with leprosy.** *Clin. Exp. Immunol.*, 1978, v. 34, No 3, 326–337.

Sera from 135 patients with leprosy were tested by the platelet aggregation test (PAT), by the Rubino test and by other seroimmunological assays. PAT positivity (titre $\geqslant 10$) was 53% in the lepromatous subgroups and 5% in the tuberculoid subgroups ($P < 0.005$). The higher PAT titres and Rubino titres clustered significantly ($P < 0.0005$) toward the lepromatous end of the disease spectrum. A statistically significant correlation was found between the PAT and the Rubino titres ($0.05 > P > 0.025$). . . .

'It was concluded that the PAT is a sensitive detector of IgG complexes peculiar to the lepromatous leprosy. In leprosy the discriminatory power of the PAT seems to be superior to that of other immune complex tests recently applied for the analysis of leprosy series.'

144. SHEPARD CC, WALKER LL VAN LANDINGHAM RM **Immunity to *Mycobacterium leprae* infections induced in mice by BCG vaccination at different times before or after challenge.** *Infection & Immunity,* 1978, v. 19, No 2, 391–394.

'Viable suspensions of BCG, an attenuated strain of *Mycobacterium bovis,* have been previously shown to immunize mice against infections with *M. leprae.* Usually, the mice have been vaccinated about 1 month before challenge. Experiments have now been carried out with single intradermal injections of BCG given before or after the *M. leprae* challenge. Approximately equal immunizing effect was seen in one experiment when the BCG was given at −168, −119, −70, and −28 days relative to challenge. Approximately equal protection was observed in another experiment when the vaccine was given at −28, +28, and +56 days. In the latter experiment, however, vaccine given at +91 days appeared to be somewhat less effective. Enlargement of the lymph nodes regional to the intradermal vaccine site persisted for at least the duration of the experiment, approximately 400 days. Thus, antigenic stimulation appears to have continued throughout the period of observation.'

145. GUPTA, RM, GUPTA, SC, SINGH G, KHANNA S **Immunoglobulins in leprosy.** *Int J Lepr,* 1979, v. 46, No 4, 342–345.

146. GARCÌA GONZÁLEZ J, DIAZ ALMEIDA J, MAYEA MILIAN L DE LA CRUZ CASTILLO F, Estudio de la inmunidad mediada por células a un grupo de enfermos de lepra (test de inhibicion de leucocitos). **[Study of cell-mediated immunity in a group of leprosy patients. The leucocyte migration inhibition test.]** *Revta Cub Med Trop,* 1978, v. 30, No 2, 53–58.

'Ten patients with the lepromin-negative lepromatous form and ten with the lepromin-positive tuberculoid form who underwent the leukocyte migration inhibition test were studied. A marked impairment of cell-mediated immunity in the lepromatous group as well as significant differences of the average inbibition rates between both groups of patients were found. Results from this *in vitro* test were correlated to those from the lepromin skin test and a correspondence in 18 out of the 20 patients studied was obtained.'

147. POULTER LW, LEFFORD MJ. **Relationship between delayed-type hypersensitivity and the progression of** *Mycobacterium lepraemurium* **infection.** *Infection & Immunity,* 1978, v. 20, No 2, 530–540.

'The relationship between the level of delayed-type hypersensitivity (DTH) and the progression of *Mycobacterium lepraemurium* infection was examined after inoculation of mice with 10^8 *M. lepraemurium* in the left hind footpad. The expression of DTH developed over the first 4-weeks of infection, remained high up to week 8, and then dropped to a low level at which it remained for 12 more weeks. The development of DTH was concordant with an initial swelling of the inoculated foot, the appearance of mononuclear infiltrate at this site, and a prevention of any increase in the number of mycobacteria in this foot and in other tissues studied. A decay of DTH reactivity was associated with a progressive increase in the number of *M. lepraemurium* initially at the original site of inoculation and subsequently in all other tissues. Although the expression of DTH was lost, adoptive immunization experiments showed that a population of sensitized lymphocytes persisted within the host. Further experimentation offered evidence to suggest that the level of systemic antigen may be in part responsible for the loss of DTH reactivity.'

[This paper is of special concern to those interested in the down grading of leprosy patients from borderline-tuberculoid to lepromatous leprosy.]

M F R Waters

148. MUSTAFA AS TALWAR GP. **Delayed hypersensitivity skin reactions to homologous and heterologous antigens in guinea-pigs immunized with** *M. leprae* **and four selected cultivable mycobacterial strains.** *Lepr India,* 1978, v. 50, No 4, 509–519.

'Guinea-pigs were immunized with *Mycobacterium leprae* in saline and with autoclaved preparations of *Mycobacterium w.* ICRC bacillus, *Mycobacterium phlei* and *Mycobacterium vaccae.* A group of animals were also immunized with live *Mycobacterium w.* All animals were challenged after one month of injection with Dharmendra and Mitsuda lepromins from *M. leprae* and other mycobacteria. Induration produced in response to the challenge antigens have been recorded on different days. All bacteria produced delayed hypersensitivity response in guinea-pigs to challenge with homologous mycobacterial preparations and *M. leprae.* In most cases, the early reaction was higher with homologous antigens as compared to *M. leprae.* In most cases, the early reaction was higher with homologous antigens as compared to *M. leprae* antigens. The late reactions to homologous and *M. leprae* antigens were however of comparable order especially in animals immunized with *Mycobacterium w,* and ICRC bacillus. Animals immunized with *M. leprae* gave low late reactions with preparations from *Mycobacterium phlei* and *Mycobacterium vaccae.'*

149. ANTHONY, J, VAIDYA MC DASGUPTA A. **Immunological methods employed in an attempt to induce erythema**

nodosum leprosum (ENL) in mice. *Lepr India,* 1978, v. 50, No 3, 356–362.

'. . . none of the methods employed for the induction of ENL in immuno-suppressed *M. leprae* infected mice were successful in simulating the reaction as observed in human leprosy.'

150. MUSTAFA, AS & TALWAR, GP. **Early and late reactions in tuberculoid and lepromatous leprosy patients with lepromins from *Mycobacterium leprae* and five selected cultivable mycobacteria.** *Lepr India,* 1978, v. 50, No 4, 566–571.

'Skin reactions have been measured in tuberculoid and lepromatous leprosy patients with Dharmendra and Mitsuda type of lepromins prepared from *M. leprae, Mycobacterium w,* ICRC bacillus, *M. phlei, M. vaccae* and *M. gordonae.* In tuberculoid patients *Mycobacterium w* gave the closest response to *M. leprae,* however, in lepromatous and borderline lepromatous cases, this bacteria produced greater response than *M. leprae.*'

151. ALEXANDER, J. **Effect of cyclophosphamide treatment on the course of *Mycobacterium lepraeurium* infection and development of delayed-type hypersensitivity reactions in C57Bl and BALB/c mice.** *Clin Exp Immunol,* 1978, v. 34, No 1, 52–58.

'. . . Cyclophosphamide pre-treatment had no effect on the growth of *M. lepraemurium* in C57Bl mice over 12 weeks. In BALB/c mice however cyclophosphamide-pre-treated mice demonstrated considerable resistance to infection at weeks 8 and 10 after infection but not thereafter. Whereas the magnitude of the delayed hypersensitivity response in C57Bl mice could not be correlated with resistance such a relationship could be demonstrated in BALB/c mice.'

152. VINET, J. La lèpre dans l'Empire Centrafricain. **[Leprosy in the Central African Empire.]** *Afr Méd,* 1977, v. 16, No 151, 365–367.

The anti-leprosy campaign started in 1953. The prevalence rate reached a peak in 1958 (6.53/1000), thereafter declining rapidly till 1966 (2.94/1000) and regularly since (about 1.00 in 1975). While the endemic is widespread, the prevalence rates vary in different parts of the country, being high (6.28 to 9.97) in the east and central area, moderate (4.37 to 5.12) in the west-central area, and low (under 4.7) in the west and north.

Children account for about 15.68% of the cases. Since 1953, 74,485 patients have been registered and of these 37,927 have been released from treatment and control.

It is considered that, while the numbers of patients no longer requiring treatment are very satisfactory, the newly registered cases (over 1,000 annually) indicate that transmission is still occurring. More intensive case-finding is advocated, with admission to one of the five hospitals of all patients with lepromatous or reactional tuberculoid disease. A long-acting sulphonamide (sulphamethoxypyradazine, or Fanasil) is the drug of choice at present, but rifampicin and clofazimine are being introduced.

S G Browne

153. LYNCH, P. **Greater Auricular nerve in diagnosis of leprosy.** *Br Med J,* 1978, Nov. 11, 1340.

337 Nepali recruits to Britain's Brigade of Gurkhas were examined in order to find the incidence of thickened nerves in the neck. Other peripheral nerves were examined together with the whole body surface. One or both greater auricular nerves were considered to be thickened in 212 subjects (63%); 21 had ulnar nerve thickening and 4 had hypopigmented macules which were not hypoaesthetic. No nerve biopsies were carried out. Because of the high incidence of thickened greater auricular nerves in this group of healthy young Nepalis the author

suggests that this clinical finding is of doubtful value in the diagnosis of leprosy.

[The fact that these men had 'well developed neck muscles' is significant, for the abstracter has found thickened nerve trunks in association with above-normal muscular development. Examinations of other racial groups are indicated.]

W H Jopling

154. DAVID-CHAUSSÉ J, TEXIER L, DEHAIS J, BULLIER R, LOUIS-JOSEPH L. Manifestations articulaires au cours de 2 cas de lèpre. **[Articular manifestations in the course of 2 cases of leprosy.]** *Bordeaux Méd,* 1978, v. 11, No 14, 1183–1190.

'The authors report on two observations of inflammatory arthrosynovitis occurring in the course of 'leprous reaction'. One involved a case of nervous leprosy, in which an intradermo-reaction of Lepromin was followed by a monoarthritis of the knee; the other a case of lepromatous leprosy in which, a few months after the administration of Disulone, polyarticular damage occurred in the course of an arthritic erythema.

'Various cases noted from the literature are analysed.

'The immunization disorders observed in the course of the leprous reaction provide the most satisfactory explanation.

'Rifampycin, successfully used in one of the cases reported, provides a complement to the therapeutic means against leprous reaction, in which corticoids, Thalidomide and Lamprene have all proved to be truly effective.'

155. KAPUR TR. **Study of non-lepromatous leprosy among Indian Armed Forces personnel.** *Lepr India,* 1979, v. 51, No 1, 81–86.

156. BHAGOLIWAL A, CHANDRA J & MISHRA RS. **Some observations on default among leprosy patients.** *Lepr India,* 1979, v. 51, No 1, 96–102.

4. THERAPY

157. PATTYN SR & SAERENS E. **Evaluation of the activity of streptomycin on *Mycobacterium leprae* in mice.** *Lepr Rev,* 1978, v. 49, No 4, 275–281.

'The effect of streptomycin on *Mycobacterium leprae* was studied in the conventional mouse model. The drug has a relatively high bactericidal activity that places it between dapsone and ethionamide or prothionamide. Its effect is more pronounced when administered immediately after the experimental infection than when treatment is started at a later time. This is probably the result of the higher activity of streptomycin on leprosy bacilli located outside cells. It is concluded that streptomycin could be a valuable companion drug during the initial treatment of dapsone resistant leprosy in countries with limited resources. Streptomycin as monotherapy is not suited for the short course treatment of paucibacillary leprosy.'

[Streptomycin has not in fact been generally recommended by expert committees, such as that of WHO (*Trop Dis Bull,* 1977, v. 74, abstr. 1967), either as a combination drug in the treatment of dapsone-resistant leprosy, or for the treatment of dapsone-sensitive infections. In their discussion the authors state that 'it would be difficult to use [streptomycin] in monotherapy for long periods of time in the treatment of human leprosy.' It would in fact be positively undesirable; apart from the inconvenience and risks of intramuscular injections under field conditions and the side-effects of this drug, it not universally cheap. Furthermore, if used alone, it will lead to resistant leprosy bacilli in about 2 years and could also produce resistant strains of tubercle bacilli.]

A C McDougall

158. BALAKRISHNAN S & SHESHADRI PS. **Influence of rifampicin on DDS excretion in urine.** *Lepr India,* 1979, v. 51, No 1, 54–59.

The plasma half-lives and urinary excretion levels of DDS were compared before and during concurrent administration of Rafampicin in 23 cases of active lepromatous leprosy. The plasma half-life of DDS was found to be slightly less during Rifampicin administration. The urinary excretion of DDS was found to be consistently enhanced in all the cases, particularly during the earlier phase of the therapy. This had no relation to the dose or the total duration of Rifampicin therapy. The findings are discussed.'

159. CARAYON A. La chimiotherapie antihansénienne face a la névrite (orientations nouvelles). **[Chemotherapy of neuritis in leprosy.]** *Hansenologia Int*, 1977, v. 2, No 1, 24–46.

'The mechanisms of activity of chemotherapy, immunotherapy, antibiotic therapy and surgery in hansenic neuritis are presented. The clinical, bacteriological and pathological pictures of the different types, varieties and stages of neuritis are described and should serve as a guide for the institution of the appropriate therapeutical measures.'

160. DELVILLE J, PICHEL AM & BOUCKAERT A. Influence de la pénicille sur l'infection expérimentale à *Mycobacterium leprae* chez la souris **[Influence of penicillin on the experimental infection of mice with *Mycobacterium leprae*.]** *Ann Soc Belg Méd Trop*, 1978, v. 58, No 2, 125–131. English summary.

'After a brief survey of the literature on the use of penicillin as a therapeutic agent in leprosy, the influence of this drug on the experimental *M. leprae* infection of mice is investigated.

'Statistically significant reduction of *M. leprae* is observed in penicillin treated mice. The infection develops normally again after stopping of treatment. This is in accordance with a bacteriostatic effect of penicillin.'

161. LEVY L. **Activity of derivatives and analogs of dapsone against *Mycobacterium leprae*.** *Antimicrob Agents Chemother*, 1978, v. 14, No 5, 791–793.

To investigate the mechanism of the antimicrobial action of dapsone (4,4′-diaminodiphenyl sulphone) against *Mycobacterium leprae*, dapsone and 25 analogues and derivatives were screened for activity in the mouse footpad system by Shepard's kinetic method. From the total of 25, only 7 were active, and all these were metabolized to, or contaminated with, dapsone. The data suggest an antimicrobial effect of dapsone on *Myco, leprae* that is qualitatively different from the effect of dapsone and related compounds on other mycobacteria. The author concludes: 'Not only may the structure of the target enzyme differ importantly from species to species, but the very identity of the target enzyme may differ among mycobacterial species. Therefore, the results of studies of structure-action relationships of dapsone and its analogs and derivatives in cultivable mycobacteria may not be directly applicable to *M. leprae*.'

[The findings and conclusions are of considerable interest, particularly in view of the fact that dapsone is effective against the leprosy bacillus at remarkably low concentrations and through a mechanism which is as yet unknown.]

A C McDougall

162. HASTINGS RC & JOB CK. **Reversal reactions in lepromatous leprosy following transfer factor therapy.** *Am J Trop Med Hyg*, 1978, v. 27, No 5, 995–1004.

'Five patients with active leprosy, four with polar lepromatous (LL) and one with borderline lepromatous (BL) disease, were each treated with transfer factor (TF) from approximately 7.4×10^9 lymphocytes given in 36 divided doses over a 12-week period. The TF was prepared from blood donated by normal, healthy, lepromin skin test-positive individuals. During treatment all four of the LL patients, but not the BL patient, developed clinical reversal reactions. Histopathologically, skin biopsies in these four LL patients showed evidence of

transformation of collections of multibacillary macrophages into paucibacillary epithelioid cells and giant cells. To our knowledge, this is the first histopathologic documentation of reversal reactions occurring in polar LL. To the extent that reversal reactions are evidence of effective cell-mediated immunity to *Mycobacterium leprae*, these results indicate that TF is capable of at least partial correction of the immunologic deficit of lepromatous leprosy.'

163. LEÓN AP & HERNÁNDEZ SILVA J. Ensayo piloto de tratamiento a corto plazo de la lepra por quimioterapia e immunoterapia asociadas, QIA. **[Pilot-type trial of short treatment of leprosy by chemotherapy and immunotherapy associated (CIA).]** *Revta Invest Salud Públ*, 1977, v. 37, No 2, 69–81.

The authors treated 4 cases of lepromatous and 2 cases of borderline lepromatous leprosy with rifampicin (600 mg daily by mouth) together with POG antigen (a polysaccharide of *Mycobacterium tuberculosis* combined to specific IgG) 0.1 to 0.5 ml weekly, fortnightly or monthly, subcutaneously.

The bacteriological index of nose scrapings diminished from an average of 3.1 to zero in 3 months, while that of the skin fell from 4.1 to 0.8 in a year and to zero later.

The morphological index of the skin reduced from an average of 66.6 to zero in 6 months.

Clinical improvement was fast and steady.

The authors believe that their treatment is not only of shorter duration but also that it is probably more effective than any chemotherapy in use up to the present. They consider that it merits further investigation.

J M Watson

164. LANGUILLON J. Traitement de la maladie de Hansen par une dose unique de 1,5 g de rifampicine associée à une sulfonothérapie continue. **[Treatment of leprosy with a single dose of 1.5 g of rifampicin together with prolonged treatment with a sulphone.]** *Méd Trop*, 1977, v. 37, No 6, 717–719. English summary.

After successful experience with various doses of rifampicin given together with other drugs, the author records an investigation into the treatment of newly diagnosed patients suffering from lepromatous leprosy with a single dose of 1.5 g of rifampicin and a daily dose of 25 mg of dapsone for 1 month, increased to 50 mg daily the second month and subsequently. Not only did the Morphological Index fall to zero (from over 50%) in 6 weeks, but the clinical improvement was remarkable.

In the case of relapse due to the emergence of resistant forms of *Mycobacterium leprae*, the author gives 100 mg of clofazimine every other day in addition to the single dose of rifampicin.

The author considers that this regimen should be adopted in mass-treatment programmes in Africa.

S G Browne

5. EPIDEMIOLOGY

165. ARGELLIES JL. Incidence de la maladie de Hansen en Martinique. Analyse épidémiologique critique des modes de dépistage. **[The incidence of leprosy in Martinique. An epidemiological analysis of case-finding methods.]** *Bordeaux Méd*, 1978, v. 11, No 3, 2775–2786. English summary.

This useful paper is based on a critical analysis of case-finding statistics in the West Indian island of Martinique, and attempts to draw conclusions concerning the most effective measures that ensure a maximum detection rate in a population of relatively low leprosy incidence. The situation is complicated by the release from in-patient treatment in a leprosarium of numbers of patients who were subsequently responsible for a real increase in the number of new cases.

The value of clinical examinations of