

## HANSENIASE: RESUMOS

## HANSENIASIS ABSTRACTS

### BACTERIOLOGIA, IMUNOLOGIA

### BACTERIOLOGY, IMMUNOLOGY

ALONSO, J.M.; MANGIATERRA, M.L.; SZARFMAN, A. La reacción de inmunoperoxidasas indirecta aplicada a la lepra humans. *Medicina*, 38(5):541-544, 1978.

We report here the indirect immunoperoxidase technique adapted to the diagnosis of human leprosy (IPI-Leprosy). Sera of 41 leprosy patients (33 lepromatous, 6 tuberculoid and 2 indeterminate) and 42 blood donors were studied by this method, using 17 normal newborn sera as negative controls. A suspension of *Mycobacterium leprae* was prepared from human leproms and employed as antigen. Prior to use, the bacilli were treated for 24 h with citrate-HCl buffer at pH 3.2 to release the gammaglobulins that may be adhered to their surface. Sera were diluted from 1/2 to 1/4096 in buffered saline at pH 7.2 with 0.3% of bovine albumin, and incubated on the slides for 30 min at 37°C. After three washings with saline, anti-human Ig and anti-human IgM peroxidase labelled immunosera were incubated on the slides, and then, revealed with diaminohencidin-O<sub>2</sub>H<sub>2</sub>. No peroxidase activity was detected by this method in *Mycobacterium leprae*. In order to evaluate the specificity of the test, sera of various infectious diseases were studied. The cross reaction between leprosy and TBC was measured using the IPI-Leprosy and IPI-BCG tests with tuberculosis and leprosy sera, respectively. The results obtained indicate that this method is adequate for serological diagnosis and prognosis in human leprosy, since good serological titers of specific antibodies were obtained without cross reaction with TBC, and specific IgM antibodies could be detected in lepromatous leprosy.

Authors' summary

HEDAYANTI, H.; ALE-AGHA, S.; HEIDARZADEH, B. Comparison of allergic reaction between paratuberculin P.P.D. heat killed *M. paratuberculosis* and lepromin in leprosy patients in Iran. *Acta Leprol.*, (78) :55-65, 1980.

One hundred fifty eight leprosy patients and children apparently healthy from Baba-Baghi leprosanarium in Tabriz and two healthy individuals from another city were tested to estimate their response to allergic reaction with lepromin, paratuberculoase particulate antigen and paratuberculin P.P.D. From 84 patients with clinical form LL, 45.24% showed Fernandez positive reaction with lepromin, 81.57% with paratuberculoase particulate antigen and 86.85% with paratuberculin P.P.D. only 3.51% of them had positive Mitsuda reaction but with the above allergens 71.42% should positive reaction. From 27 children apparently healthy tested 74.07% had positive Fernandez reaction but with paratuberculin 96.26% showed positive reaction after 72 hours. In Mitsuda test with lepromin 81.48% and with paratuberculin 44.44% of them showed positive reaction. One of the control healthy individual who was tuberculin positive showed negative reaction with paratuberculin. It seem that there is a great antigenic relationship between *M. leprae* and *M. paratuberculosis*.

Authors' summary

KATO, L. & THOKOLY, I. Hydrocarbures des pétroles: substance idéale pour mycobactéries. *Acta Leprol.*, (78) :19-33, 1980.

The purpose of this exercise was to capture the interest and imagination of the

readers in order to stimulate cultivation trials for *Mycobacterium leprae* on n-alkane containing media. The fact that mycobacteria are regularly cultivated from leprosy tissues on tetradecane enriched media is not sufficient to claim the cultivation of leprosy bacilli. More inventive imagination is needed regarding the incorporation of hydrocarbons into culture media. On such media cultivation trials are desirable at geographical locations where fresh human or armadillo derived bacilli are available. Since the cultivation of the leprosy bacillus has yet to be achieved and since the cultivation of the leprosy bacilli is the top priority of leprosy research, exploration of the validity of this working theory is solicited. In this petroleum-hungry world of ours, even mycobacteria have a marked appetite for petroleum fractions. The utilization of straight chain paraffinic hydrocarbons for growth and multiplication is widespread among microorganisms, especially mycobacteria. Among the petroleum products tetradecane, because of its high energy content, is a particularly excellent candidate for growing hitherto noncultivable mycobacteria. The same substrate serves as a source of energy, carbon and as a base for synthesis of cholesterol, a molecule which is an integral constituent of this unique procaryotic cell called *M. leprae*.

Authors' summary

ANDERSON, R.; GATNER, E.M.S.; IM-KAMP, F.M.J.H.; KOK, S.H. *In vivo* effects of propranolol on some cellular and humoral immune functions in a group of patients with lepromatous leprosy. *Lepr. Rev.* 51(2) :137-148, 1980.

Certain functions of blood neutrophils and lymphocytes were investigated at varying time intervals after the addition of propranolol to standard therapy in a group of patients with lepromatous leprosy. A control group of patients received standard therapy only. The leucocyte functions tested were neutrophil chemotaxis, phagocytosis and NBT reduction and lymphocyte mitogen induced transformation, leucocyte inhibitory factor production and number of spontaneous E, E and EAC rosettes. Serum immunoglobulins, complement components and total haemolytic complement were also measured in both groups. Over a 3-month period neutrophil chemotaxis, numbers of active-E and E rosettes, lymphocyte transformation and lymphokine production improved on standard therapy alone. However, although the propranolol group had the highest mean responses, there were no significant differences between the two groups of patients after one month and three months.

Likewise there was no difference between the two groups with respect to other cellular or humoral investigations. Neutrophil chemotaxis appeared to be the best functional correlate of clinical improvement.

Authors' summary

DELVILLE, J. Acido-alcool résistance de *M. leprae* importance de la technique de coloration dans le diagnostic microbiologique de la lèpre. *Acta Leprol.*, (78) :11-17, 1980.

Les techniques de Wade-Fite et it l'auramine après déparaffinage au mélange térébentine-huile de paraffine sont de loin les meilleures méthodes de coloration des BH dans les coupes histologiques de lésions lépreuses surtout chez des malades en traitement. Ces méthodes permettent également de détecter un plus grand nombre de bacilles dans les lésions de lèpre indéterminée ou tuberculoïde et ce également dans un plus grand pourcentage de cas que le Ziehl-Neelsen. Les bacilles de Hansen sont souvent peu ou pas acido-résistants avec la méthode de Ziehl-Neelsen, mais peuvent récupérer leur acido-résistance sous l'influence du mélange térébentine-huile de paraffine. Ce traitement, de même que l'oxydation par l'acide périodique, permettent également de restaurer l'acido-résistance perdue suite à un traitement par la pyridine ou le toluol.

Conclusions de l'auteur

LANGUILLON, J. Etude électrophorétique des protéines sériques et valeurs des immunoglobulines IgG, IgA et IgM chez le lépreux sénégalais. *Acta Leprol.*, (78) : 45-54, 1980.

Une étude électrophorétique des protéines sériques de 393 lépreux sénégalais (169 TT, 167 LL et 57 ENL en début de réaction) a montré une diminution du taux de l'albumine associée à la lèpre, un accroissement des taux des diverses globulines alpha, bêta et gamma, une inversion du rapport A/G. L'augmentation du taux des globulines alpha est particulièrement nette au début de la crise réactionnelle pour tomber au taux du lépromateux non réactionnel lorsque l'ENL est contrôlé. L'évolution du taux de l'alpha globuline est donc parallèle à celle de la "C reactive Protein". Les taux des diverses globulines sont sensiblement les mêmes dans les deux sexes. La recherche de la valeur des immunoglobulines IgA, IgG et IgM chez 200 lépreux (50 tuberculoïdes, 100 lépromateux et 50 réactionnels) a montré un accroissement très net dans la forme lépromateuse et dans la réaction à type

d'ENL, cet accroissement est particulièrement sensible pour l'IgA. Nous avons également trouvé une augmentation des IgG dans la forme tuberculoïde.

Résumé de l'auteur

MELSOM, R. & DUNCAN, M.E. Demonstration of antibodies against *Mycobacterium leprae* both in immunoglobulin G and M in sera from pregnant and non-pregnant lepromatous leprosy patients. *Lepr. Rev.*, 51(2):125-135, 1980.

Antibodies against *M. leprae* antigen 7 have been shown to consist of both immunoglobulin G and M in a lepromatous leprosy serum pool and in individual sera from patients with active lepromatous leprosy. Various implications of the occurrence of anti-*M. leprae* antibodies in several immunoglobulin classes are discussed, particularly their use as an indicator of transfer of *M. leprae* antigens or of live leprosy bacilli to the foetus during pregnancy. With the present techniques, no IgM antibodies against *M. leprae* antigen 7 could be detected in several cord sera from babies born of mothers with active lepromatous leprosy.

Authors' summary

RAMU, G.; SENGUPTA, U.; DESIKAN, K.V. Influence of sulphone therapy on lepromin reaction. *Lepr. Rev.*, 51(3) : 207-214, 1980.

Sulphones administered in different doses were found to have a modulating effect on lepromin response in TT and BT cases. Twenty-six cases of TT and BT leprosy were initially lepromin tested and included in the study. Eight cases were given orally 100 mg dapsone per day and nine cases were adminis-

tered a single injection of acedapsone 225 mg. After 4 weeks all cases were retested with lepromin. The treatment was subsequently reversed so that the patients who received acedapsone earlier were placed on dapsone and those who had dapsone earlier were administered acedapsone. After a further 4 weeks the lepromin tests were again repeated. It was found that skin reaction to lepromin was significantly enhanced by small doses of sulphone and was depressed, although not significantly, by larger doses. Therefore, dapsone in full therapeutic doses may be usefully employed from the beginning in TT and BT cases with due care. It is also hypothesized that chemoprophylaxis with acedapsone might possibly enhance CMI against leprosy if already present.

Authors' summary

REA, T.H. & TERESAKI, P.I. HLA-DR antigens in tuberculoid and lepromatous leprosy. *Lepr. Rev.*, 51(2) :117-123, 1980.

The frequencies of distribution of six histocompatibility antigens of the HLA-DR locus were determined in 38 Mexican patients with lepromatous leprosy and in 19 Mexican patients with tuberculoid leprosy. These were compared with antigen frequencies of 174 Mexicans who did not have leprosy. No evidence of an association between HLA-DR antigens and leprosy could be found. In tuberculoid subjects HLA-DRW2 was more common than in controls, 32% and 15% respectively. Although this difference was not statistically significant, it was in accord with another report of a significant increase in HLA-DRW2 among patients with tuberculoid leprosy. Furthermore, frequencies for 16 HLA-A, 23 HLA-B and five HLA-C antigens did not differ significantly in the two groups of patients as compared with controls.

Authors' summary

## PATOLOGIA, FISIOPATOLOGIA, BIOQUÍMICA

## PATHOLOGY, PHYSIOPATHOLOGY, BIOCHEMISTRY

BHARADWAJ, V.P.; SRITHARAN, V.; VENKATESAN, K.; RAMU, G.; DESIKAN, K.V. Effect of DDS therapy on blood pyruvate and lactate levels in leprosy patients. *Lepr. Rev.*, 51(3) :237-241, 1980.

A study was undertaken with an aim to find out if DDS could have any effect on the

thiamine levels of leprosy patients. Cases of lepromatous leprosy with and without neuritis were the subjects of this study. Pyruvate tolerance test was done in the blood of these patients before and after DDS treatment; blood pyruvate and lactate estimations were done. LL with neuritis gave significantly decreased pyruvate tolerance and the lactate/pyruvate ratio was significantly less than

the controls and lepromatous patients without neuritis. This may be indicative of a sub-normal status of thiamine in these patients. DDS treatment of these cases resulted in further enhancement of pyruvate values, probably indicating a progressive thiamine deficiency. Those patients who were on prolonged treatment, however, showed near normal values. It is suggested that DDS may cause derangement in pyruvate and lactate metabolism, which however needs further work to understand the underlying mechanism of this phenomenon.

Authors' summary

ELLARD, G.A. Profile of urinary dapsone/creatinine ratios after oral dosagens with dapsone. *Lepr. Rev.*, 51 (3) :229-236, 1980.

The ratios of the concentration of DDS plus its diazotisable metabolites to creatinine (D/C ratios) of successive urine samples collected after the ingestion of either single or consecutive daily doses of 100 mg DDS followed a pattern that was closely in accord with the hypothesis that once absorption is complete the rate of elimination of DDS and its diazotisable metabolites falls exponentially at a rate similar to the decline in plasma DDS concentrations. Diuresis influenced D/C ratios to only a minor extent. The results obtained indicated the validity determining dapsone compliance by determining D/C ratios of urine samples from either the individual patient or a group of patients self-administering their prescribed daily DDS medication, provided that the results obtained are compared with those achieved with fully supervised treatment.

Authors' summary

KORANNE, R.V.; RATAN SINGH; IYENGAR, B. Liver function tests in tuberculoid leprosy. *Indian J. Dermatol. Venereal. Lepr.*, 45(6):430-436, 1979.

A total of 24 patients with untreated tuberculoid leprosy were taken up for study. They were the same group of patients in whom the authors had earlier reported involvement of liver in 85% cases. Five healthy controls studied also belonged to the same series. Liver function tests included prothrombin time, serum bilirubin, zinc sulphate turbidity, serum proteins and serum transaminases. No sig-

nificant alterations in the liver function were observed. This is because the changes in the liver were so minimal and focal that they were not reflected in the various liver function tests.

Authors' summary

PACIN, A. & FLIESS, E. Estudios enzimáticos en pacientes hansenianos. Actividad sérica de la fosfatasa alcalina. *Leprolologia*, 21(1):46-60, 1979.

Se estudió la actividad de la fosfatasa alcalina total en 110 pacientes hansenianos (49 lepromatosos quiescentes; 31 tuberculoides quiescentes; 21 lepromatosos reaccionales; 9 tuberculoides reaccionales) utilizando como control los sueros de 11 testigos sanos. Se observó un marcado aumento de la actividad de la fosfatasa alcalina sérica en los pacientes reaccionales, tanto tuberculoides como lepromatosos, en tanto que no se encontraron diferencias significativas entre los pacientes quiescentes y los testigos sanos. Se piensa que dicho aumento puede deberse al dano celular generalizado producido por los episodios reaccionales.

Resumen de los autores

RIDLEY, M.J.; BADENOCH-JONES, P.; TURK, J.L. Ultrastructure of cells of the monoclear-phagocyte series (MPS) across the leprosy spectrum. *J. Pathol.*, 130(4):223-227, 1980.

A systematic ultrastructural study of cells of the MPS across the spectrum of leprosy has been carried out. Graded changes in macrophage ultrastructure from the lepromatous to the tuberculoid poles have been shown. Mycobacteria-filled macrophages in lepromatous leprosy are characterised by long cell processes, whereas in borderline tuberculoid leprosy these cells have a rounded appearance and are mainly characterised by numerous intracellular vacuoles. In borderline leprosy, macrophages have an intermediate appearance. Cells of the MPS containing abundant endoplasmic reticulum were only seen in typical "epithelioid cell" tuberculoid granulomas in "BT in reaction" and in the Mitsuda reaction. Epithelioid cell granulomas in other forms of BT leprosy contained activated macrophages.

Authors' summary

## HANSENÍASE EXPERIMENTAL, LEPROA ANIMAL EXPERIMENTAL HANSENIASIS, ANIMAL LEPROSY

CLOSS, O. & LOVIK, M. Protective immunity and delayed-type hypersensitivity in C57BL mice after immunization with live *Mycobacterium lepraemurium* and sonicated bacilli. *Inf ec. Immun.*, 29(1): 17-23, 1980.

The immunizing effects of live *Mycobacterium lepraemurium* (MLM) and bacillary sonic extract (MLMSon) were compared in C57BL mice. MLMSon-immunized mice developed a delayed-type hypersensitivity (DTH) reaction when tested in the footpad with diluted MLMSon. The ability to develop a DTH reaction was transferable with immune cells but not with serum. Footpad testing with live MLM and MLMSon indicated that the specificity of the DTH response induced by

MLMSon was different from that induced by infection with live bacilli. Two weeks after footpad inoculation with live MLM, MLMSon-immunized mice developed a strong local reaction to the bacilli. No local reaction developed in these mice after injection of the same number of heat-killed MLM. Studies of bacillary growth after inoculation with live MLM indicated that the bacilli did not multiply in mice previously inoculated with live MLM, but that they multiplied for about 2 weeks in MLMSon-immunized mice versus 4 weeks in the controls. The results suggest that immunization with MLMSon does not by itself induce a protective immune response, but creates a state in which the development of protective immunity is accelerated.

Authors' abstract

## CLÍNICA, DIAGNÓSTICO

### CLINICAL ASPECTS, DIAGNOSIS

ABULAFIA, J. Eritema nudoso no hanseniano y hanseniano. *Sus semejanzas y sus diferencias histopatológicas y clínicas. Le-prologia*, 21(1):32-33, 1979.

En resumen: El Eritema Nudoso Hanseniano puede mostrar clínicamente lesiones indistinguibles del Eritema Nudoso Atípico; o nódulos colicuativos, o diseminados en la piel y mucosas, que permiten la presunción diagnóstica hanseniana. El estudio histopatológico puede confirmar el diagnóstico con el hallazgo de infiltrados virchowianos, invadidos por poli-nucleares neutrófilos con fenómenos vasculares que pueden llegar a la trombosis. Las células de Virchow muestran bacilos mal temidos y disminuidos en número, probablemente en vinculación con la acción de los fermentos proteolíticos liberados por los polinucleares neutrófilos. La necrobiosis del granuloma virchowiano y de los tejidos hipodérmicos, determina fibrosis secundaria no observable en el EN atípico no hanseniano.

Resumen del autor

BIANCHI, O. Enfermedad de Hansen. Contribución a su diagnóstico temprano. *Le-prologia*, 21(1):34-36, 1979.

Se presentan dos casos de Hansen indeterminado, sorprendidos en etapas muy ini-

ciales de su evolución clínica. Como suele suceder en estas etapas precoces, la sintomatología clínica y los hallazgos histológicos suelen ser muy escasos, dificultando la tarea diagnóstica. Motiva esta comunicación, destacar la necesidad de la investigación de BAAR en el interior de nervios cutáneos, aun en aquellos no ocupados por el infiltrado inflamatorio.

Resumen del autor

CARRILLO CASAUX, D. & CARRILLOS MONTESINOS, J.M. Lepra neural. *Rev. Leprol. Fontilles*, 12(4):415-423, 1980.

Estamos ante un caso de lepra lepromatosa, sin manifestaciones cutáneas específicas, que nos hagan sospechar esta variedad. Pero estamos en el cual lo que predomina en su casi totalidad es el gran componente neural, con la parálisis cubito-mediana, algias, a veces agudísimas y alteraciones tróficas. Ninguna afectación visceral detectable. Hasta el momento no hemos descubierto ningún conviviente enfermo, aunque se trata de un pueblo donde el número de enfermos censados por nosotros es de nueve casos, es decir, de zona endémica. El enfermo se encuentra sometido a tratamiento por vía oral con D.D.S. (diamino-difenil-sulfona) a dosis de 50 mgrs. diarios y Vit. B<sub>12</sub>, vía intramuscular. Consideramos se trata

de un caso de no fácil pronóstico en cuanto a la irreversibilidad de su parálisis, y que precisará un tratamiento prácticamente de 10 a 12 años.

Resumen de los autores

HUSSER, J.A.; ARNOLD, J.; MARCHAND, J.P. Intérêt d'une confrontation histo-clinique dans le diagnostic de la lèpre. Bilan chez 191 patients nouvellement dépistés. *Acta Leprol.*, (78) :35-44, 1980.

Les correlations histo-cliniques ont été étudiées chez quatre cent onze malades, suspectés comme lepreux par l'examen clinique pur et biopsies systématiques, it une consultation passive du secteur des Grandes Endémies de Dakar. Elles montrent que dans vingt cinq pour cent des cas, l'histologie ne confirme pas la maladie lépreuse. C'est le diagnostic de la forme tuberculoïde polaire (TT), qui entraîne le plus grand nombre d'erreurs cliniques, dues aux nombreux diagnostics différentiels possibles en dermatologie tropicale. L'étude des cas confirmés par l'examen histologique fait apparaître une discordance entre la clinique et l'histologie dans plus d'un tiers des cas, partant surtout sur les formes interpolaires, dont les aspects cliniques transitionnels et polymorphes sont difficiles à systematiser. La definition precise des critères histologiques et leur concordance avec les modifications immunologiques de la lèpre font de l'examen histologique, un temps essentiel du diagnostic et de la classification de la maladie.

Résumé des auteurs

JEREZ, J.; QUINTANILLA, E.; MARTINGIL, D.; AYESA, C.; OEHLING, A. Lepromatous leprosy and contact dermatitis. *Dermatologica*, 160 (1) :31-36, 1980.

The rare association of lepromatous leprosy and allergic contact dermatitis due to chromium in cement was confirmed clinically and biologically in a male patient. The apparent lack of influence of lepromatous leprosy on the development and maintenance of this dermatitis dependent upon cell-mediated immune mechanisms is discussed.

Authors' abstract

SAYIL, A. Lepra de Lucio. *Rev. Med. Hosp. Gral.*, 42 (12) :548-553, 1979.

Lucio's Leprosy is a clinical variety of lepromatous leprosy characterized by a diffuse, waxy infiltration of all the skin that is

never transformed into nodules, alopecia de eyebrows, eyelashes and body hair and in some cases by an special type of lepra reaction named Lucio's phenomenon which is a necrotic type of vasculitis. This form of leprosy was first described by Ladislao de la Pascua, complete studied by Lucio and Alvarado in 1852 and reidentified by Latapi in 1936. The cases can be since the beginning as a diffuse case or begin as an indeterminate one. Anhidrosis, sensorial disturbances, alopecia of eyebrows and eyelashes and hypopigmented and anesthetic macules are early symptoms. In these cases *acid-fast bacilli* are always found in every fluid of the body and in all organs, Mitsuda reaction is negative and Virchow cells with bacilli are found in the skin and different organs. An impairment of cell-mediated immune response both non-specific and highly *M. leprae* specific is revealed in these cases and Lucio's phenomenon is probably mediated by the deposition of immune complex in dermal blood vessels. This form of leprosy has the worst prognosis and the treatment is with DDS, rifampicin and clofazimin. Thalidomide is used for lepra reaction. Lucio's leprosy is common in Mexico in the states of Sinaloa, Colima, Jalisco, Michoacán and some cases have been reported in Costa Rica, U.S.A., Guatemala, Spain, Brazil and other countries.

Authors' summary

SEHGAL, V.N.; KORANNE, R.V.; NAYYAR, M.; SAXENA, H.M.K Application of clinical and histopathological classification of leprosy. *Dermatologica*, 161(2) : 93-96, 1980.

A simultaneous clinical and histological study in 82 new, untreated leprosy patients was undertaken using the criteria of Ridley and Jopling. The disparity between the clinical and the histological diagnosis was abundantly clear, because in only 35 patients the two conformed with each other while in others was a shift of one step towards either the tuberculoid or the lepromatous end of the spectrum. In 18 patients from other groups of leprosy, histologic delineation had features of indeterminate leprosy.

Authors' abstract

TERENCIO DE LAS AGUAS, J.; SANTAMARIA, L.; CHOVER, P. Papiloma nasal invertido en enfermo de lepra. *Rev. Leprol. Fontilles*, 12(2):165-172, 1979.

An inverted nasal mucosa papiloma now become malign is presented. Paranasal sinus

and orbit are invaded as well. It is resistant to both surgical and radio therapy.

Authors' summary

WESHLER, Z.; LEVIANTAN, R.; GORDON, R.; KOPOLOVIK, J. Development of Hodgkin's disease in a patient with leprosy. *Oncology*, 96:281-284, 1978.

We present a patient with leprosy who developed Hodgkin's disease of the nodular sclerosing type. There are two previous reports describing the combination of leprosy

and Hodgkin's disease in a single patient. Hodgkin's disease was diagnosed 14 months after the complete disappearance of *Mycobacterium leprae* from the skin lesions, under treatment with DDS (diamino-diphenyl-sulfone). Hodgkin's disease was treated by irradiation and chemotherapy. Obstructive jaundice developed which resolved under treatment with irradiation of the hilar area of the liver, chemotherapy and hormones. During two years of immuno-suppressive therapy, without DDS, no exacerbation of the leprosy occurred.

Authors' abstract

## TERAPÉUTICA

### THERAPY

BERGEYCK, E.; JANSSENS, P.G.; MUYNCK, A. Radiological abnormalities of the ileum associated with the use of clofazimine (Lamprene; B663) in the treatment of skin ulceration due to *Mycobacterium ulcerans*. *Lepr. Rev.*, 61(3) : 221-228, 1980.

During the course of treatment with clofazimine (Lamprene; B663) for skin ulceration due to *Mycobacterium ulcerans*, a female patient aged 38 developed severe and persistent gastro-intestinal symptoms, with diarrhoea. These became most intense 9 months after starting the drug, during which period the dosage had been 100 mg three times daily. Barium meal examination of the gastro-intestinal tract showed striking abnormalities of the small bowel particularly ileum, consisting of alternating segments of constriction and dilatation, coarsening of the mucosal folds, and circumscribed 'polypoid' areas. Ileal loops were flexible, but painful on palpation and compression. On stopping clofazimine, the patient's abdominal symptoms and diarrhoea subsided rapidly. The skin ulceration soon healed completely. Fourteen months after stopping the drug, a repeat barium meal examination of the small bowel was normal. Although not confirmed by laparotomy or intestinal biopsy, no infective, parasitic or neoplastic cause was found for the intestinal symptoms and radiological abnormalities, and it is considered that they were closely associated with the ingestion of clofazimine. Other cases in the literature are reviewed in which it has been well established that clofazimine may crystallize out in human tissues, including the sub-mucosa of the bowel and intraabdominal lymph nodes. This drug, which is

of great value in the treatment of leprosy, should be used in other conditions with caution, especially if alternative treatment is available. In leprosy, a dose of 100 mg three times weekly has been found effective and acceptable. Doses higher than this should only be used under exceptional circumstances and for short periods of time.

Authors' summary

COLIN, M. & MONTAIGNE, E. Traitement de la maladie de Hansen lepromateuse par l'association de rifampicine et d'isoprodian. *Med. Trop.*, 40(2)167-169, 1980.

Thirty lepromatous patients were treated during 3 months. If clinical condition was notably improved, the bacillary index and the morphologic index remained almost unchanged and the histopathological features, advanced concurrently to the clinic aspects.

Authors' summary

ELLARD, G.A. Combined treatment for lepromatous leprosy. Editorial. *Lepr. Rev.*, 51 (3) :199-205, 1980.

The studies reviewed above indicate that the most promising alternative to once-monthly rifampicin to combine with acedapsona and dapsona in order to prevent the emergence of dapsona resistance would be daily dosage with 50 mg clofazimine or with 376 mg ethionamide or prothionamide. However these drugs are inherently less potent than rifampicin and are likely to be less well tolerated than single monthly doses of 600 mg rifampicin. Furthermore, treatment of out-

patients with these drugs would be impossible to supervise so that there would be a considerable risk of such regimens breaking down because of poor patient compliance. Also, at current prices, daily treatment with these doses of ethionamide or prothionamide would be 3-4 times more costly than with monthly doses of 600 mg rifampicin. For the treatment of patients who had relapsed with proven dapsone resistance, practical regimens might consist of a combination of once-monthly supervised rifampicin with unsupervised daily clofazimine for dark-skinned patients, or with daily ethionamide or prothionamide for those who would find the skin discoloration caused by clofazimine unacceptable.

From the editorial

GIRLING, D.J. & HITZE, H.L. Adverse reactions to rifampicin. *Bull. WHO*, 57 (1) :45-49, 1979.

This summary of adverse reactions to rifampicin has been prepared with the intention that it will be made available to all those involved in the administration of rifampicin in tuberculosis and leprosy control programmes. The reactions covered comprise those to both daily and intermittent administration, namely cutaneous and gastrointestinal reactions, hepatitis, and thrombocytopenic purpura, and those to intermittent administration only, namely "flu" syndrome, shock, shortness of breath, haemolytic anaemia, and renal failure.

Authors' summary

MARTINEZ JIMENEZ, A. & GÓMEZ UR-

CUYO, F. Carbamazepina en las manifestaciones neurológicas de la lepra. *Rev. Leprol. Fontilles*, 12(2) :147-151, 1979.

The action of carbamazepine in neurological sensitivity in symptomatology (hyperaesthesia, paresthesia, neuralgia, and reactional neuritis) is studied in 20 leprosy patients of which 11 were lepromatous cases, 8 tuberculoid, and 1 indeterminate. Excellent results are obtained in 65%, good ones in 25% and none only in 10% of the patients. As a secondary effect 35% showed mild somnolence.

Authors' summary

SHESKIN, J. Valoración de derivados de la talidomida en la leproreacción. *Rev. Leprol. Fontilles*, 12(1):27-30, 1979.

The salutary of thalidomide in lepra-reactions due to lepromatous leprosy are recognized. This has been well proved in over

15 years of clinical use internationally. As it is not to be used with pregnant women, other drugs derived from thalidomide have been found: CG 601, CG 603, CG 805, CG 807, CG 809, CG 817 B, CG 3033, E 510, %511. Only three of these proved to be effective. In fact, those with hold teratogenic properties in animals.

Author's summary

TERENCIO DE LAS AGUAS, J. Resultados del tratamiento con sulfonas a largo término en la lepra lepromatosa, con especial relación a las alteraciones renales y frecuencia de la sulfonoresistencia. *Rev. Leprol. Fontilles*, 12(1):81-40, 1979.

We can affirm that we even found in therapeutic field of leprosy. Sulphones and clofazimine are the principal medical treatments till now, but unfortunately they are very slow to reach clinic inactivity, but even more on getting bacteriologic inactivity. Their tolerance is good but is necessary that multibacillary patients take it during the whole life to avoid the fact of resistance and therefore in the therapeutic field we still are away from reach the longed goal of eradication of the disease and rehabilitation from these patients with whom humanity has acquired a great responsibility.

Author's summary

TERENCIO DE LAS AGUAS, J.; GERVAZONI, B.; RAVIOLI, R. Conclusiones sobre la rifampicina en la lepra a los siete años de tratamiento. *Rev. Leprol. Fontilles*, 12(4) :425-436, 1980.

Se efectuó el tratamiento de 14 pacientes afectados de lepra lepromatosa durante un tiempo que osciló entre 7 y 5 años. La dosis diaria del fármaco administrado fue de 600 mg. De total de enfermos, 7 (equivalentes al 50%) no continuaron el tratamiento. De los 7 restantes, el 76% negativizó su baciloscopia en moco al cabo de 29 meses, y el 24% obtuvo, en igual período, una mejoría morfológica muy significativa. Del control bacteriológico en piel, el 71% también mejoró morfológicamente y el 29% se negativizó. Las leproreacciones fueron presentadas en 5 de los siete pacientes, con un promedio de 10 en cada uno de ellos, en todo el período que duró el control. Otro grupo de 12 enfermos fue tratado con RFP e Isoprodian durante un tiempo que osciló entre 2 y 6 años. Los resultados obtenidos fueron mejores que con la RFP como tratamiento único. La tolerancia fue buena.

Resumen de los autores

## CIRURGIA, FISIOTERAPIA, REABILITAÇÃO FISICA

## SURGERY, PHYSIOTHERAPY, PHYSICAL REHABILITATION

BOVET, J.L. Traitement chirurgical de la paralysie faciale chez les lepreux en Iran. *Med. Trop.*, 40(2):185-188, 1980.

Leprous facial paralysis appears more frequent in Iran than in other countries. The damaged branch is more often the upper one inducing lagophthalmos and, sometimes, associated with a trigeminal anesthesia. The ocular risk is great. When the lower branch is struck down, it gives an inesthetic deformity and speaking difficulty. As a consequence, surgical treatment is necessary and directed: against lagophthalmos, with static or dynamic methods, against the ptosis of commissura labiorum with several techniques available.

Author's summary

KEELER, R.F. & RYAN, M.A. The incidence of disabilities in Hansen's disease after the commencement of chemotherapy. *Lepr. Rev.*, 51(2):149-154, 1980.

Of 529 patients diagnosed as having Hansen's disease during the period 1 January 1971 to 31 December 1976 in the tropical twin island nation of Trinidad and Tobago, 473 (89%) were free of disabilities at the time of diagnosis. Of these, 335 (71%) were re-evaluated in 1978 in an attempt to determine

the incidence of disabilities during the first few years of chemotherapy. Only two patients (0.6%) in this group were found to have developed disabilities. We concluded that disability occurs very infrequently in Trinidad after the diagnosis of Hansen's disease and the commencement of chemotherapy.

Authors' summary

SMITH, W.C.S.; ANTIN, U.S.; PATOLE, A.R. Disability in leprosy: a relevant measurement of progress in leprosy control. *Lepr. Rev.*, 51(2):155-166, 1980.

931 patients have been detected in a Leprosy Control Project in Karnataka, India, giving a prevalence of 4.86/1000. 292 of these cases have disability and these are analysed in detail using the WHO Disability Index DI - 2. The effects of different forms of treatment on this Index are examined. It is suggested that incidence of disability is a more relevant measurement of the effectiveness of leprosy work than the incidence of cases. Secondary preventative measures are unlikely to prevent new cases whereas primary preventative measures for disability should affect the incidence of disability. This study forms the base line of a prospective study of the incidence of disability.

Authors' summary

## EPIDEMIOLOGIA, PREVENÇÃO

## EPIDEMIOLOGY, CONTROL

MEESTERS, H.J.A. Leprosy control in the Gambia. *Lepr. Rev.*, 51(3):215-220, 1980.

The changes in the epidemiological situation of leprosy in the Republic of the Gambia are assessed from the statistics of the registered patients and through Comparison of several leprosy surveys. A marked decline in the number of registered cases (from 7,000 in 1970 to 1,675 in 1977) and in the estimated prevalence of leprosy (2.5% in 1947, 0.6% in 1977) is demonstrated. Several aspects of leprosy control in the Gambia are discussed. The need to continue a specialized programme is stressed.

Author's summary

MILLAN, J. Le dépistage de la lèpre dans un secteur de la Guadeloupe (French West Indies). *Med. Trop.*, 40(2):161-168, 1980.

Data give evidence of: 1) a progressive decrease of the infections with a significant fall in the school age group; 2) an almost constant number of infectious patients; 3) a growing importance of the detection by private practitioners. Passive detection detects patients who, in most cases, are more seriously infected than those detected by active detection. Active detection is the only effective leprosy prophylactic method.

Author's summary

MOHAN DAS, M.G. Prevention and control of leprosy. *J. Indian Med. Assoc.*, 72(2) : 37-40, 1979.

One can do no better than to quote Davey in conclusion: One thing becomes clear, namely, that leprosy control policy cannot be left to a committee of leprologists working in isolation. Future policy needs to be synthesised by a co-ordinating committee, where clinicians, bacteriologists and epidemiologists sit together, with social scientists and experts in health education who have made a special study of leprosy and its problems, and the group as a whole consider the control programme suitable to any given country.

Author's conclusion

SAMSOEN, M.; BASSET, A.; GROSSHANS, E. Contribution a l'étude épidémiologique de la lèpre en France métropolitaine. *Bull. Soc. Pathol. Exot.*, 72(4) :295-307, 1979.

322 nouveaux cas de lèpre diagnostiques en France métropolitaine sont recensés par une enquête postale dans 11 villes, de 1970 à 1978. 217 sont vus à Paris, 105 en province. 137 sont étrangers, 104 originaires des D. O. M. T. O. M., 45 métropolitains rapatriés d'outre-mer. 39,7% sont lépromateux, 43,6% tuberculoïdes, 13,9% indéterminés. En Alsace, parmi 35 lèpres suivies, 16 y ont été diagnostiquées.

Résumé des auteurs

## PSICOLOGIA, EDUCAÇÃO, REABILITAÇÃO SOCIAL

## PSYCHOLOGY, EDUCATION, SOCIAL REHABILITATION

MATTHEWS, C.M.E.; SELVAPANDIAN, A.J.; JESUDASAN, M. Health education and leprosy. *Lepr. Rev.*, 51(2) : 167-171, 1980.

In the context of effective health education in leprosy, various theories from the behavioural sciences are reviewed. In a project carried out near Vellore in South India over a period of 1½ years, the three main stages included information, motivation and

action. The objectives were to make the patients come for early and regular treatment, to make the public willing to employ patients and not to avoid harmless contact with them, and to make patients take proper care of their hands and feet. The techniques employed are described and the results analysed — indicating a considerable improvement in knowledge, attitude and reported practice.

Authors' summary