

# LITERATURA CORRENTE

## CURRENT LITERATURE

### CIRURGIA - SURGERY

HIRAI, Flávio Eduardo, SHIGUEMATSU, Alvio Isao, SCHELLINI, Silvana Artioli, PADOVANI, Carlos Roberto. Tratamento cirúrgico da triquíase maior / Surgical treatment for larger trichiasis. *Rev. bras. Oftalmol.*, v. 57, n. 5, p.357-61, maio 1998.

O objetivo deste trabalho foi conhecer as características dos portadores de triquíase maior e a resposta ao tratamento (cirurgia de Van Millingen). Foram avaliados 100 pacientes portadores da patologia e observou-se que a doença foi mais freqüente em pacientes acima da sexta década de vida, portadores de tracoma cicatricial, cirurgia palpebral prévia, blefarite e meibomite. A pálpebra superior e a inferior foram acometidas nas mesmas proporções. A resposta ao tratamento cirúrgico foi pior nos portadores de triquíase associada ao entrópio, havendo necessidade de nova cirurgia em 23,1 p/c dos pacientes. Os autores responsabilizam o caráter crônico-evolutivo das patologias de base pelas falhas do tratamento.

### CLÍNICA - CLINICS

CAMPOS, W.R., et al. Identification of *M. leprae* in conjunctiva of leprosy patients using the superior tarsal conjunctiva scrape technique. *Indian J. Leprosy*, v.70, n.4, p.397-403, Oct-Dec, 1998.

The technique of superior tarsal conjunctiva scrape was used for identifying *M. leprae* in the conjunctiva in 56 leprosy patients (all of them multibacillary, some untreated and others treated with multidrug therapy). The technique of tarsal conjunctiva scrape was shown to be more suitable than conjunctival biopsy for identifying lepra bacilli. This technique is also easier to perform and has shown a statistical relation between bacilloscopic index of skin ( $BI_s$ ) and bacilloscopic index of tarsal conjunctiva ( $BI_{conj}$ ) values. Thus, if the bacilli can be identified at tarsal conjunctiva we can assume greater systemic bacillary load in the patients.

CROFT, R. P. et al. Nerve function impairment in leprosy: design, methodology, and intake status of a prospective cohort study of 2664 new leprosy cases

in Bangladesh (The Bangladesh Acute Nerve Damage Study). *Leprosy Rev.*, v.70, n.2, p.140-159, June, 1999.

The Bangladesh Acute Nerve Damage Study (BANDS) is a prospective cohort study designed to investigate epidemiological, diagnostic, therapeutic and operational aspects of acute nerve function impairment in leprosy. The study is based at a single centre in Bangladesh, in area with a high prevalence of leprosy. The centre, Danish Bangladesh Leprosy Mission, has a well-established vertical leprosy control programme. In this paper, the study design and methodology are described, together with definitions of nerve function impairment (NFI) used in this and subsequent papers. The study recruited 2664 new leprosy cases in a 12-month period. The male:female ratio is 1-25:1, and 17-61% of the cohort are under 15 years of age. In all, 83-33% of the cohort are paucibacillary (PB), and 16-67% multibacillary (MB). However, the MB rate amongst males is 19-72%, and amongst females is 12-85%, despite an equal period of delay to diagnosis, 55% of patients presented for treatment within 12 months of developing symptoms. 6-12% of the total number of cases were smear positive, and 36-71% of the MB cases were smear positive. 9-61% of the total number of cases were graded as having World Health Organisation (WHO) disability grade 1, and 5-97% had grade 2. Amongst MB cases, 27-48% had WHO grade 1 disability present, and 18-24% had grade 2 present, compared with 6-04% and 3-51%, respectively, amongst PB cases. A total of 1-90% of the cohort had sensory NFI of any kind, and 7-39% had motor NFI. Ninety patients presented with NFI needing treatment (3-38%), and of these, 61 (67-78%) had silent NFI. MB patients had a prevalence of reaction/NFI needing treatment nearly 7 times higher than PB cases (15-32% amongst MB; 2-30% amongst PB), and males nearly that of females (5-67% amongst males, 2-96% amongst females). The most commonly affected nerve by function impairment was the posterior tibial (sensory) with 6-46% of nerves affected (9-38% of patients), followed by the ulnar nerve with 3-23% of nerves impaired (5-56% of patients). Future research and publications, building on this foundation, will focus on the following areas: the incidence of NFI and reactive events, the risk factors for developing NFI, and the response to treatment of patients developing acute NFI.

EISIG, J.N. et al. Hansen's disease and the digestive system: clinical symptoms and gastric secretory profile at baseline conditions and following maximum stimulation with pentagastrin. *Acta Leprol.*, v.11, n.3, p.99-104, 1999.

The incidence of digestive symptoms in 100 patients with Hansen's disease was evaluated in this study, following a standardized questionnaire. A correlation between the frequency of symptoms, the form of the disease, and the length of treatment was investigated. Digestive symptoms were found in 31 patients (31%). No statistically significant difference was found between the presence of symptoms and the length of the disease or between the multibacillary and the paucibacillary form of the disease. However, a positive correlation between digestive symptoms and Hansen's disease was found in the multibacillary form of the disease only for patients treated for more than 12 months. Baseline and pentagastrin-stimulated gastric acid secretion was studied in 30 Hansen's disease patients and in 10 controls. A lower basal acid output was observed in patients with Hansen's disease, but no statistical difference was found. Pentagastrin-stimulated gastric acid secretion was statistically different in Hansen's disease patients, as compared to controls. A lower pentagastrin-stimulated acid secretion was found in Hansen's disease patients under treatment, as compared to untreated patients, but the difference was not statistically significant.

Keywords: Leprosy — Hansen's disease — Gastroenterological symptoms — Pentagastrin.

FREEDMAN, V.H., WEINSTEIN, D.E., KAPLAN, G. How *Mycobacterium leprae* infects peripheral nerves *Leprosy Rev.*, v.70, n.2, p.136-139, June, 1999.

It has long been known that leprosy is an infection of the peripheral nerves. Even when only limited numbers of skin lesions are present and only small numbers of *Mycobacterium leprae* are found in the skin, the organisms preferentially localize to the peripheral nerves. Histologically, bacilli are seen in intracellular vacuoles of either myelinating Schwann cells' or in macrophages which have migrated from the blood into the perineural space. Infection of the nerves can result in chronic demyelination/remyelination, often leading to calcification and permanent loss of neural function<sup>2</sup>[ Because of this, leprosy is the leading cause of non-traumatic peripheral neuropathy<sup>3</sup>. Although it is clear that the Schwann cells are the main targets of *M. leprae* infection, the molecular basis of this tropism, and how the organism gains entry into the nerve and then into the

Schwann cells, was not known.

The field of leprosy research has now been excited by two recent papers by Rambukkana et al.<sup>4,5</sup> in which the investigators describe a molecular mechanism for the selective affinity of *M. leprae* for Schwann cells. The studies have identified a glycoprotein which binds to ('opsonizes') the surface of *M. leprae* which is in turn bound by a molecule on the Schwann cell surface (a 'receptor'), thereby providing a potential mechanism for internalization of the bacilli by Schwann cells.

The Schwann cell/axon unit of peripheral nerves is covered by a basal lamina (Figure) which consists of a number of extracellular matrix molecules, including laminins, type IV collagen, entactin/nidogen, and heparin-sulphate proteoglycans<sup>6,7</sup>. The laminins are glycoproteins composed of three chains,  $\alpha$ ,  $\beta$ , and  $\gamma$ . There are 11 distinct isoforms depending on the configuration of the chains. In the Schwann cell basal lamina of the peripheral nerve, the predominant form is laminin-2, which is composed of the  $\alpha 2$ ,  $\beta 1$ , and  $\gamma 1$  chains.<sup>8</sup> This configuration is not found in the central nervous system. In their first paper, Rambukkana et al.<sup>4</sup> showed that *M. leprae* binds specifically to the G-domain, which is located at the C-terminal end of the  $\alpha 2$  chain of laminin-2.

GUPTA, U.D. et al. Detection of viable organisms in leprosy patients treated with multidrug therapy. *Acta Leprol.*, v.11, n.3, p.89-92, 1999.

Cutaneous biopsies were collected from multibacillary leprosy patients who attended the out-patient department of Jalma Institute for treatment at different time intervals, i.e. 6 months, 12 months, 18 months, 24 months, 30 months, 36 months and 4 months after starting multidrug therapy (MDT) when they were still skin smear positive. Biopsies were processed for inoculation into mouse foot pad (MFP) and estimation of bacillary ATP levels by bioluminescent assay (ATP assay) by earlier established procedures. Viable bacilli were detectable after 1 year (25% cases by MFP and 31% cases by ATP assay), 2 years (8% cases by MFP and 12% cases by ATP assay) and 3 years (4% cases by both MFP and ATP assays). Overall, the percentage of the persisters was 10% by MFP and 13% by ATP assay. It would be important to carry out surveillance studies in larger number of BL/LL cases to know the trends and also the resultant relapses.

Keywords: Leprosy — *Mycobacterium leprae* — Viability— Mouse foot pad inoculation — Bioluminescence.

JOB, C.K., THOMPSON, K. Histopathological features of lepromatous iridocyclitis: a case report. *Int. J. Leprosy*, v.66, n.1, p.29-33, March, 1998.

A peripheral iridectomy specimen which included a portion of the ciliary body from an advanced lepromatous leprosy patient was studied histopathologically. The lepromatous granuloma in the iris was similar in content and appearance to that of skin lesions. It appeared that even in this advanced lepromatous patient the dilator muscles of the iris were preserved. This study agrees with the earlier observation that the dysfunction of the iris in lepromatous disease is most probably the result of automatic nerve destruction. Further, it is possible that the lepromatous involvement of the iris may reflect the histopathological changes in the ciliary body.

LIMA, Marcus Aurelio de, RODRIGUES JUNIOR, Virmondos, SILVA-VERGARA, Mário León, NOMEINI, Maria Betânia, PAIM, Neiva, SANTOS, Taciana Arruda Modesto dos, SANTOS, Vitorino Modesto dos. Hanseníase virchowiana em cardiopata chagásico: relato de necropsia / Generalized hanseniasis in Chagas' myocardiopathy: necropsy study. *Rev. Soc. Bras. Med. Trop.*, v.31, n.4, p.385-90, jul.-ago. 1998.

Relata-se caso de hanseníase virchowiana diagnosticada... necropsia, com alterações cardíacas causadas diretamente por micobactérias, em homem de 34 anos portador de miocardiopatia crônica chagásica. Enfatiza-se o possível papel de mediadores inflamatórios na gênese da disfunção miocárdica; bem como a possibilidade de que fatores associados à insuficiência cardíaca, como esplenomegalia congestiva e infartos esplênicos, possam causar imunodepressão, predispondo à infecção generalizada (AU).

MEIMA, et al. Factors associated with impairments in new leprosy patients: the AMFES cohort. *Leprosy Rev.*, v.70, n.2, p.189-203, June, 1999.

Data on the importance of the delay between onset of symptoms and registration as a risk factor for impairment are sparse. This study investigates the quantitative relationship between this delay, other risk factors and the impairment status in new leprosy patients. It reports on 592 new leprosy patients enrolled in 1988-1992 in the prospective ALERT MDT Field Evaluation Study in central Ethiopia (AMFES). The influence of the risk factors sex, age, delay, PB/MB classification in relation to BI, and prior dapsone treatment on the impairment status at intake is analysed. Estimates for the delay are

based on patient recall. For the risk factors, odds ratios on impairment and on severity of impairment were calculated using both univariate and multivariate logistic regression. The registration delay was 2 years or more for 44% of new patients. The prevalence of impairment (WHO impairment grades 1 and 2 combined) increased continuously from 36% for new patients with a delay of 01 year to 81% for new patients with delays of 4 years or more. This prevalence also increased continuously with age; it rose from 26% in children to 80% for the age group 60 and over. In the multivariate regression, the odds ratios for new patients to be impaired were statistically significant for all delay categories (baseline 1-2 years) and age groups (baseline 15-29 years). No statistically significant differences in odds ratios were observed with respect to Sex and PB/MB classification in relation to BI. Overall, 31% of new patients presented with WHO impairment grade 1 and 23% with grade 2. The risk on grade 2 also increased with the registration delay amongst the impaired new patients. Relatively few impaired males and relatively few impaired MB patients with a BI value of 3 or higher had grade 2 impairment. Registration delay and age are the main risk factors for presentation with impairment. Reduction of delay in central Ethiopia requires re-thinking of control methodologies. The search for ways to reduce delays in diagnosis and treatment should receive high priority in leprosy research and in leprosy control programmes.

NARAYAN, R et al. Fractionation, characterization and diagnostic potential of circulating leprosy antigens isolated from sera of lepromatous leprosy patients. *Int. J. Leprosy*, v.66, n.1, p.22-28, March, 1998.

Circulating antigen was isolated from lepromatous sera by ammonium sulfate precipitation. The protein fraction between 36% and 75% ammonium sulfate was reactive with leprosy sera. Further fractionation of Ultrogel AcA 34 gel filtration column gave four protein fractions, CLA<sub>1</sub>, CLA<sub>2</sub>, CLA<sub>3</sub> and CLA<sub>4</sub>. CLA<sub>1</sub> and CLA<sub>2</sub> showed antigenic activity. On SDS-PAGE analysis and elution of the protein fractions, CLA<sub>1</sub>-7, CLA<sub>2</sub>-1 and CLA<sub>2</sub>-7 were found to be reactive with leprosy sera. On evaluating the diagnostic utility of these fractions, CLA<sub>1</sub>-7 could detect IgG antibodies in 80% of the lepromatous (LL) and in 40% of the tuberculoid (TT) serum samples. Fraction CLA<sub>2</sub>-1 reacted with IgM antibodies in 80% of the LL and TT patients; fraction CLA<sub>2</sub>-7 reacted with IgM antibodies in 70% of the LL and TT sera. Biochemical characterization indicated that CLA<sub>1</sub>-7 was a glycoprotein while CLA<sub>2</sub>-1 and CLA<sub>2</sub>-7 were lipoproteins in nature. When tested by an inhibition ELISA, fraction CLA<sub>2</sub>-7 inhibited the binding of anticeramide antibodies to a ceramide - coated plate

while thin-layer chromatography of fractions CLA<sub>2</sub>-1 and CLA<sub>2</sub>-7 showed a spot with an R<sub>f</sub> value similar to that of standard ceramide. This study thus shows for the first time the presence of ceramide in circulating leprosy antigen.

OH, Se Young, PAIK, H.Y., JU, D. Dietary habits, food intake and functional outcomes in those with a history of Hansen's disease in Korea. *Int. J. Leprosy*, v.66, n.1, p.34-42, March, 1998.

This study shows that the nutrition and health status of ex-leprosy patients in Korea was marginal. Their nutrient intakes were low, especially from micronutrients which were associated with food from animal sources. Dietary quality was discriminated by food habits, such as skipping meals, irregularity of meals, food purchase and meal preparation. Dietary quality was best predicted by food habits followed by physical fitness and nutrition knowledge. Our subjects were nutrition-conscious, but they did not have accurate information. These findings suggest that our study population needs nutrition education.

RODRIGUEZ, German. Analises practico de la biopsia de piei en el estudio de la lepra / Practical analyses of skin biopsy in the study of lepra. *Med. UIS.*, v.12, n.4, p.195-9, jul.-ago. 1998.

El objetivo de esta revisión es enfatizar y mostrar la importancia de la biopsia de piei en el estudio de la lepra. Esta es una enfermedad con una amplia gama de formas clínicas, mas difíciles de identificar mientras mas precoces sean. La biopsia de piei debe hacerse en todo paciente con lepra, como una manera de confirmar el diagnóstico clínico, porque revela el dano neural dérmico típico o porque demuestra los bacilos. El tamaño ideal de la biopsia es de 1 cm de longitud, 5 mm de anchura y 7 mm de profundidad; una técnica depurada con control adecuado, para demostrar los bacilos de Hansen es mandatoria. Los nervios cutaneos pueden albergar los bacilos, sin presencia de componente inflamatorio; técnicas como Ia coloración tricrômica de Masson o la inmunohistoquímica para 5-100 son útiles en los poios tuberculoides, porque demuestran bien los nervios. La biopsia de piei en lepra es muy útil no sólo para confirmar los casos incipientes sino en las reacciones uno y dos y para identificar as recidivas que comienzan en los nervios. La lepra neural, en la cual la enfermedad no presenta signos cutaneos, puede demostrarse con una simple biopsia de piei. La biopsia establece los diagnósticos diferenciales. Sólo el 58 por ciento de los casos diagnosticados clinicamente como lepra demuestran esta entidad al microscopio. Estas observaciones se basan en el

estudio de mas de 2.000 biopsias de piei, durante los últimos diez años, através del Programa Nacional de Control de la Lepra (AU).

SANTOS, Geraldo Gomes dos. Aspectos estomatológicos das lesões específicas e não específicas em pacientes portadores da moléstia de Hansen / Oral aspects of specific and unspecific lesions in Hansen's disease patients. São Paulo; s.n; 1998. 77 p. Tese apresentada a Universidade de São Paulo. Faculdade de Odontologia para obtenção do grau de Doutor.

O presente trabalho teve como finalidade o estudo da mucosa bucal de pacientes portadores de hanseníase, na procura de lesões específicas da doença e, ao mesmo tempo, buscou pesquisar a presença de possíveis alterações inespecíficas. Examinamos 181 pacientes, dos quais 175 estavam sob poliquimioterapia e 6 sem tratamento, na sua grande maioria multibacilares e na forma clínica MHV. No que diz respeito à cor, o maior número era de leucodermas: 110/71 em relação aos melanodermas; a faixa etária mais comum foi 31-40 anos (47/181); quanto ao gênero, o masculino predominou sobre o feminino (104/77). Na amostra examinada não detectamos lesões específicas da doença, talvez por estarem os pacientes sob tratamento poliquimioterápico... (AU).

SIRMOUR, S.R . et al. LDH isozymes with anomalous bands in semen of leprosy patients. *Indian J. Leprosy*, v.70, n.4, p.405-409, Oct-Dec, 1998.

Activity of LDH isozymes was evaluated electrophoretically on 7% acrylamide gel in semen of 37 leprosy patients (15 with borderline, 12 with borderline tuberculoid and ten with lepromatous leprosy) and ten fertile men of 30-45 years of age. Significantly lower activities were recorded of LDH<sub>1</sub> in all categories of leprosy patients. Similarly, lowering of LDH<sub>2</sub> activity was noticed in borderline and lepromatous cases only, lowering of LDH<sub>4</sub> activity in lepromatous cases only and LDH<sub>5</sub> activity was lowered in borderline leprosy patients. Lowest activity of LDH<sub>3</sub> and absence of LDH<sub>x</sub> were found in lepromatous leprosy. However, in borderline tuberculoid patients, LDH<sub>3</sub> and LDH<sub>x</sub> were significantly higher. This exceptional increase in activity was found to be due to presence of additional (anomalous) isozymes bands of LDH<sub>3</sub>, LDH<sub>x</sub> and LDH<sub>4</sub> in 25% of borderline tuberculoid patients. Additional bands of LDH<sub>3</sub> have also been located in 40% of the borderline leprosy patients.

TERENCIO DE LAS AGUAS, J. Mega-carcinomas cutâneos históricos. *Fontilles — Rev. Leprol.*, v.22, n.2, p.179-193, Mayo-Agosto, 1999.

The frequency of Skin Cancer, like Epitheliomas and Melanomas and skin tumors of big size in previous times are discussed some in leprosy patients and due to early diagnosis and treatment are at the present moment exceptional.

Key words: Skin Cancer. Big size. Disappear.

TERENCIO DE LAS AGUAS, J. Leprorreacciones. *Fontilles — Rev. Leprol.*, v.22, n.2, p.163-178, May-Agosto, 1999.

The clinical aspects, pathology and classification of reactional episodes of distinct types: lepromatous, Eritema Nodosum Leprosum and Dimorphus (Reversal Reactions), together with its neural sequences and incapacities like visceral lesions. The drug regimes and the role of Clofazimine in the decrease of type 2 Reaction are discussed.

Key words: Leprosy Reactions, Classification, Treatment

VALENTINI, Attilio, NERY, José, A. C, SALLES, Ana Maria, VIEIRA, Leila M. M, SARNO, Euzenir N. Edema na hanseníase: aspectos clínicos e terapêuticos / Edema in leprosy: clinical and therapeutical aspects. *Rev. Soc. Bras. Med. Trop.*, v.32, n.2, p.131-8, mar.-abr. 1999.

Durante o curso da hanseníase, o edema comumente descrito como um sintoma de estados reacionais, pode ocorrer. Tanto o diagnóstico como a terapêutica adequada são, frequentemente, difíceis de conseguir e assim podem acarretar permanente dano aos membros inferiores. Em um ano de acompanhamento, pacientes hansenianos - 0 multibacilares e 1 paucibacilar - que foram submetidos a um protocolo clínico para o diagnóstico e classificação histopatológica, apresentaram clinicamente edema, localizado ou sistêmico. Entre estes pacientes, cinco apresentaram simultaneamente outros sintomas de reação, 4 foram classificados como reação Tipo I e um como reação tipo II. Por outro lado, três pacientes não apresentaram reação no momento do diagnóstico, mas desenvolveram alguns aspectos de reação posteriormente (2 tiveram neurite e um teve reação tipo I). Os edemas observados recedendo ou associados a quadros reacionais apresentaram ótima resposta clínica às drogas de ação anti-inflamatória (corticóide, talidomida e pentoxifilina) utilizadas para o tratamento dos estados reacionais, na ausência de qualquer outro tratamento normalmente usado para

edema. Embora necessitem ser confirmados por estudos controlados, estes dados sugerem fortemente que mecanismos imunológicos estejam envolvidos na fisiopatologia dos edemas na hanseníase (AU).

ZERPA, Olga, SANAN, Constanza, ARANZAZU, Nacarid, RODRIGUEZ, Cecilia, VILLARROEL, Helena, GOUVEIA, Maria. Lepra y embarazo fenomenos reaccionales y recaída: a proposito de dos casos/ Pregnancy and leprosy reactionals phenomenons and relapse: a purpose of two cases. *Dermatol. venez.*, v.36, n.1, p.32-5, 1998.

El embarazo disminuye fisiológicamente la inmunidad celular en la mujer para proteger al feto; este hecho puede precipitar la aparición de lesiones de lepra, empeorar la enfermedad no producir recaídas en pacientes ya tratadas. Sin embargo, la lepra no tiene efectos graves sobre el embarazo. Presentamos 1 caso de una paciente curada de lepra con recaída durante el embarazo y otra con exacerbación de lesiones y aparición de eritema nodoso leproso durante la gestación(AU).

## CONTROLE - CONTROL

AL - QUBAT, Y., AL — DOBAI, A.B.M. Review of leprosy control activities in Yemen. *Int. J. Leprosy*, v.67, n.2, p.150-153, June, 1999.

Leprosy control activities in Yemen are reviewed historically and up to the present time. Since 1983 the World Health Organization's multidrug therapy has been used in the National Leprosy Control Programme. Current activities are carried out in 63 leprosy clinics distributed all over the country and staffed by trained primary health care workers and medical assistants. In Yemen leprosy prevalence has declined from 1400 per 10,000 population in 1990 to 647 in 1997. Over the same period, new case detection rates per 10,000 population increased from 185 to 517. A backlog of leprosy cases continues to transmit the disease in Yemen.

BARUA, S. et al. Leprosy elimination through integrated basic health services in Myanmar: the role of midwives. *Leprosy Rev.*, v.70, n.2, p.174-179, June, 1999.

Myanmar is one of the top 16 countries identified by WHO as being hyperendemic for leprosy. Multi-drug therapy (MDT) was introduced in 1988 as a vertical programme and gradually integrated into the basic health services (BHS), achieving 100% coverage over the registered cases by 1995. To achieve maximum coverage

of and benefit for patients, both leprosy vertical staff and BHS staff were trained to implement MDT whilst performing routine BHS activities. This included a total of 8615 trained midwives who were mobilized for the nationwide leprosy elimination programme (LEP). They worked at village level in various parts of the country and were willing and able to carry out basic tasks in leprosy management, such as the implementation of MDT using blister-calender packs carrying a month's supply of drugs. This study was performed to assess the workload of midwives and their attitude towards LER. The authors conclude that midwives in Myanmar show a high level of commitment and reliability, which are essential contributing factors to achieve the current goal of leprosy elimination by the year 2000. Along with the present trend of decreasing prevalence rate, leprosy could no longer be considered as a public health problem at national level by the year 2000 in Myanmar. However, because of its long incubation period, new leprosy patients may arise even after the elimination target is achieved, whilst many other patients may become disabled. A community-based sustainable approach for the post-elimination phase, after the year 2000, will be essential and the contribution of the midwives may be of considerable importance.

BEKRY, W. et al. Delay in presentation and start of treatment in leprosy patients: a case-control study of disabled patients in three different settings in Ethiopia. *Int. J. Leprosy*, v.66, n.1, p.1-9, March, 1998.

The delay incurred by leprosy patients between the onset of symptoms and the start of treatment has not been well characterized. Because reducing this delay is likely to be the most productive of all activities aimed at preventing disability, we compared the various components of delay in disabled and nondisabled new leprosy cases in a case-control study. Disabled patients had a median overall delay of 26 months, while nondisabled patients incurred a delay of only 12 months. The total delay was divided into three components: a) the delay between the onset of symptoms and the first act of health-seeking behavior, which was significantly longer for disabled patients; b) the delay between the first action and visit to a recognized clinic, which was also significantly longer for disabled patients; and c) the delay between the first clinic visit and the start of treatment, which was important in some cases: in those patients whose delay was due to problems within the health services, disabled patients again had a significantly longer delay. The study also compared two rural areas of Ethiopia, one with high and one with low rates of disability in new cases. High rates of disability (and

greater delay in starting treatment) were thus associated with high levels of stigma, being from the Christian rather than the Muslim community, and the use of traditional medicine. There was, surprisingly, no association with knowledge about the transmission, symptoms and curability of leprosy. Implications for health promotion activities are discussed.

CONVIT, J. et al. Control de la lepra en Venezuela después de más de cinco décadas de desarrollo. *Fontilles — Rev. Leprol.*, v.22, n.2, p.145-162, Mayo-Agosto, 1999.

The anti leprosy campaign in Venezuela began in the XIXth Century and is re-enforced in the XXth Century. The Ministry of Public Health and Social Welfare is created in 1936, including the Antileprosy Service. The Leprosy Division is created in 1946, and it later becomes the Department of Public Health Dermatology, which today is part of the Institute of Biomedicine. The Department has 31 regional services nationwide.

Supervised MDT treatment is initiated in 1985. The evolution of leprosy is characterized by an increase of detection and prevalence after 1946, with a later decreased during the sixties, stabilizing during the eighties at rates around 0'25 (slightly over 500 cases) per 10.000 inhabitants per year. The decreased in prevalence has been maintained, with sharp changes in 1992 and 1995 due to updating of registries.

The level of elimination of leprosy as a public health problem (according to the WHO norms of prevalence rates under 1/10.000 inhabitants) was reached in Venezuela during 1997, when only four (Apure, Barinas, Cojedes and Portuguesa) of the 23 States show prevalence rates over the elimination level. Since the elimination level has been reached but the number of new cases and the detection rate remain relatively stable, we propose a more strict definition for classifying a country at the "elimination level" by including, apart from the prevalence rate, data regarding case detection. Cases are predominantly multibacillary. Detection rates per age show a gradual increase parallel to age. Male/female rates remain at around 2. Ten per cent of cases show some degree of disability, even though generally discrete. There is a percentage of cases born abroad higher than this group in the general population. Most cases come from marginal urban areas, even though rates are higher for rural areas.

The Institute of Biomedicine has developed a great research effort in this disease, specially in its immunological aspects.

Key Words: Elimination of leprosy. Incidence. Prevalence. Antileprosy campaign.

GUPTE, M.D., NARASIMHAMUTHY, B. Lot Quality Assurance Sampling (LQAS) for monitoring a leprosy elimination program. *Int. J. Leprosy*, v.67, n.2, p.143-149, June, 1999.

In a statistical sense, prevalences of leprosy in different geographical areas can be called very low or rare. Conventional survey methods to monitor leprosy control programs, therefore, need large sample sizes, are expensive, and are time-consuming. Further, with the lowering of prevalence to the near-desired target level, 1 case per 10,000 population at national or subnational levels, the program administrator's concern will be shifted to smaller areas, e.g., districts, for assessment and, if needed, for necessary interventions. In this paper, Lot Quality Assurance Sampling (LQAS), a quality control tool in industry, is proposed to identify districts/regions having a prevalence of leprosy at or above a certain target level, e.g., 1 in 10,000. This technique can also be considered for identifying districts/regions at or below the target level of 1 per 10,000, i.e., areas where the elimination level is attained.

For simulating various situations and strategies, a hypothetical computerized population of 10 million persons was created. This population mimics the actual population in terms of the empirical information on rural/urban distributions and the distribution of households by size for the state of Tamil Nadu, India. Various levels with respect to leprosy prevalence are created using this population.

The distribution of the number of cases in the population was expected to follow the Poisson process, and this was also confirmed by examination. Sample sizes and corresponding critical values were computed using Poisson approximation. Initially, villages/towns are selected from the population and from each selected village/town household are selected using systematic sampling. House holds instead of individuals are used as sampling units. This sampling procedure was simulated 1000 times in the computer from the base population.

The results in four different prevalence situations meet the required limits of Type I error of 5% and 90% Power. It is concluded that after validation under field conditions, this method can be considered for a rapid assessment of the leprosy situation.

NIEVES, J. et al. Algunos aspectos epidemiológicos de la incidencia y la prevalencia de lepra. Provincia de Camagüey, Cuba. Año 1997. *Fontilles — Rev. Lepról.*, v.22, n.2, p.133-143, Mayo-Agosto, 1999.

A study was carried out in 1997 in the Province of Camagüey, Cuba, to evaluate the incidence and

prevalence of leprosy in the area.

The epidemiological indicators used were incidence and it's population distribution of clinical forms, early and late diagnostic mode of detection, prevalence and distribution of clinical forms.

The results reveal that leprosy is still a health problem in Camaguey in 7 of 13 counties; the prevalence rate was 1'2 x 10.000; incidence 4'4 x 100.000; multibacillary forms are predominant (82'9%); early detection is at 62'8% and the highest percentage of new cases who assist a medical clinique is 94'3%.

RICHARDUS, J.H. et al. Case detection, gender and disability in leprosy in Bangladesh: a trend analysis. *Leprosy Rev.*, v.70, n.2, p.160-173, June, 1999.

A trend analysis is presented of all newly detected leprosy cases over an 18-year period (1979 — 1996) in a highly leprosy endemic area of Bangladesh. A total of 23,678 new cases were registered, with an average of 860 new cases per year in the first 12 years, and increasing to around 3000 in 1996. The male: female (M:F) ratio decreased from 2-3 to 1-4. The proportions of newly detected cases with MB leprosy and of newly detected cases with any disability decreased over time. These reductions were more marked in the higher age groups of both sexes. The reduction in disability was primarily attributable to a decline in grade 2 disability. New case detection rates (NCDR) of all leprosy patients per 10.000 general population increased for males from 3 to 6; and for females from 1 to 4, while the NCDR of MB leprosy decreased in males from 1-4 to 0-6, and in females fluctuated around 0-45. The NCDRs of leprosy patients with disabilities showed an initial decreased in the first period, especially in males, but later showed an increase. The NCDR of males with disability was about twice as high as that of females. Finally, female NCDRs in the ages between 15 and 30 were low by comparison with the male NCDRs at the same time. This may be due to the sociocultural characteristics of the Bangladeshi society, with gender differences in exposure, health seeking behaviour and opportunities for case detection. Operational changes in the control programme have contributed to the changed profile of newly detected cases. This study shows that the application of general population statistics is essential for understanding the dynamics in leprosy control programmes under changing operational conditions. Combining case detection figures with such statistics helps to identify population groups that are possibly not benefiting sufficiently from the services provided, and to clarify the dynamics in control programmes and the future trends and programme requirements.

SCHENONE FERNANDEZ, Hugo. Programa especial para *investigación* y adiestramiento en enfermedades tropicales (TDR) / Special programme in research and training in tropical diseases. *Rev. méd. Chile.*, v.126, p.34-41, jul. 1998. 7 supl.

A description of the six tropical diseases involved in the programme and the achievement of research goals are evaluated. The author points out the important accomplishment of these aims in the impact in the malaria and filariasis control, in the elimination of leprosy and the future eradication of Chagas disease in the Americas. At the same time the relevance of the manpower training was emphasized in the strengthening on the research infrastructure of the member countries (AU).

Van BEERS, S.M., HATTA, M., KLATSER, P.R. Patient contact is the major determinant in incident leprosy: implications for future control. *Int. J. Leprosy*, v.67, n.2, p.119-128, Jtne, 1999.

Notwithstanding the elimination efforts, leprosy control programs face the problem of many leprosy patients remaining undetected. Leprosy control focuses on early diagnosis through screening of household contacts, although this high-risk group generates only a small proportion of all incident cases. For the remaining incident cases, leprosy control programs have to rely on self-reporting of patients. We explored the extent to which other contact groups contribute to incident leprosy.

We examined retrospectively incident leprosy over 25 years in a high-endemic village of 2283 inhabitants in Sulawesi, Indonesia, by systematically reviewing data obtained from the local program and actively gathering data through interviews and a house-to-house survey. We investigated the contact status in the past of every incident case. In addition to household contact, we distinguished neighbor and social contacts.

Of the 101 incident cases over a 25-year period, 79 (78%) could be associated to contact with another leprosy patient. Twenty-eight (28%) of these 101 cases were identified as household contacts, 36 (36%) as neighbors, and the remaining 15 (15%) as social contacts. Three patients had not had a traceable previous contact with another leprosy patient, and no information could be gathered from 19 patients. The median span of time from the registration of the primary case to that of the secondary case was 3 years; 95% of the secondary cases were detected within 6 years after the primary case.

The estimated risk for leprosy was about nine times higher in households of patients and four times higher in direct neighboring houses of patients compared to households that had had no such contact with patients.

The highest risk of leprosy was associated with household of multibacillary patients. The risk of leprosy for household of paucibacillary patients was similar to the risk of leprosy for direct neighboring houses of multibacillary patients, indicating that both the type of leprosy of the primary case and the distance to the primary case are important contributing factors for the risk of leprosy.

Contact with a leprosy patient is the major determinant in incident leprosy; the type of contact is not limited to household relationships but also includes neighbor and social relationships. This finding can be translated into a valuable and sustainable tool for leprosy control programs and elimination campaigns by focusing case detection and health promotion activities not only on household contacts but also on at least the neighbors of leprosy cases.

## EPIDEMIOLOGIA - EPIDEMIOLOGY

LAPA, Tiago Maria. Análise espacial da distribuição da hanseníase no município de Olinda: uma contribuição ao sistema local de vigilância epidemiológica / Spatial analysis of leprosy's distribution in the city of Olinda: contribution to local epidemiologic surveillance system. São Paulo, s.n, 1999. 124 p. Tese apresentada a Universidade de São Paulo. Faculdade de Saúde Pública. Departamento de Epidemiologia para obtenção do grau de Mestre.

Estuda a hanseníase, sério problema de Saúde Pública no Brasil, onde contrariamente à tendência global, as taxas de detecção apresentam-se altas e crescentes. Basendo no princípio da descentralização preconizado pelo Sistema Único de Saúde (SUS); no processo de urbanização das doenças devido aos movimentos migratórios e quadro sócio-econômico dos espaços urbanos e que as formas de relacionamento das pessoas com o meio são determinantes da hanseníase, utiliza a Análise Espacial como contribuição com o Sistema de Vigilância Epidemiológica a nível local. Através da integração de bases de dados, trabalha o conceito de risco coletivo, buscando construir mapa da sua distribuição para apoio o planejamento e controle a nível local. Constrói através de indicadores de carência social, estratos relativos ao risco, identificando a coerência com os padrões da distribuição urbana da ocorrência da hanseníase no município de Olinda. Constrói mapa com divisões dos setores censitários, georreferenciando variáveis sócio-econômicas e de moralidade, agregando indicadores no tempo e no espaço como forma de redução da variabilidade. Demonstra, através de método que usa coeficiente de correlação entre os pesos de



conexão entre as áreas, a existência de agrupamentos espaciais, ponderando, as dimensões territoriais e populações das áreas. Observa a concordância com a distribuição da doença, indicando a utilidade na priorização de ações de saúde, instrumentando o planejamento a nível local, permitindo a racionalização de recursos (AU).

XIMENES, Ricardo Arraes de Alencar, MARTELLI, Celina Maria Turchi, SOUZA, Wayner Vieira de, ALBUQUERQUE, Maria de Fátima Militão de, ANDRADE, Ana Lúcia Sgambatti Sampaio de, MORAIS NETO, Otaliba Libénio de, SILVA, Simonne Almeida e, LIMA, Maria Luiza Carvalho de, PORTUGAL, José, Luiz. Vigilância de doenças endêmicas em áreas urbanas: a interface entre mapas de setores censitários e indicadores de morbidade / Surveillance of endemic diseases in urban areas: the interface between census tract maps and morbidity data. *Cad. saúde pública*, v.15,n.1, p.53-61, jan.-mar. 1999.

Discute-se o eixo metodológico utilizado na construção de modelo de vigilância de endemias em áreas urbanas, orientado por uma análise de situações de risco e por indicadores epidemiológicos espaciais. São apresentadas as premissas básicas do modelo, os critérios de seleção de variáveis sócio-econômicas e as etapas metodológicas necessárias na construção do indicador sintético de risco. Comenta-se, também, como algumas questões operacionais relativas à construção de mapas digitais de setores censitários e vinculação de bancos de dados foram equacionadas. Essa abordagem, incorporando o componente da organização do espaço na vigilância de doenças endêmicas, tendo como exemplo a hanseníase e a tuberculose, privilegia o uso integrado de sistemas de informação já existentes, na perspectiva de estratificar áreas urbanas diferenciadas que permite discriminar riscos desiguais para ocorrência de endemias. Essa é uma ferramenta para o planejamento o gerenciamento das ações voltadas para o controle das endemias nas cidades. (AU).

## IMUNOLOGIA - IMMUNOLOGY

CHAKRABARTY, A.N. et al. A comparative study on the Mitsuda type response to antigens of chemoautotrophic nocardioform bacteria and to standard lepromin in leprosy patients. *Acta Leprol.*, v.11, n.3, p.105-112, 1999.

Anergy, or contrarily, Mitsuda-type responses towards 4 chemoautotrophic nocardioform antigens

(CAN-Ags) and a control standard lepromin were tested in 73LL, TT and borderline cases of leprosy. The antigens injected per patient varied from a maximum of 5 to a minimum of 2. Complete anergy to CAN-Ags was seen in 92/92 instances tested on 24 LL cases. The anergy was weakly modified or unmodified in 3 other LL cases which had been vaccinated before. Concurrent studies with the same antigens tested on 33 TT cases showed clear-cut, dose-dependent, Mitsuda-type late responses in 80/81 instances. The CAN bacteria, therefore, despite their origin from different unrelated leprosy human, mouse footpad (MFP) and armadillo tissues, appeared to be identical with each other and also probably related to the leprosy bacillus, on the basis of these parameters.

Keywords: Leprosy — Lepromin — Anergy — Mitsuda responses — Chemoautotrophic nocardioform bacteria.

GUPTE, M.D. et al. Comparative leprosy vaccine trial in South India. *Indian J. Leprosy*, v.70, n.4, p.369-388, Oct-Dec, 1998.

This report provides results from a controlled, double blind, randomized, prophylactic leprosy vaccine trial conducted in South India. Four vaccines, viz BCG, BCG+ killed *M. leprae*, M.w and ICRC were studied in this trial in comparison with normal saline placebo. From about 300.000 people, 216.000 were found eligible for vaccination and among them, 171.400 volunteered to participate in the study. Intake for the study was completed in two and a half years from January 1991. There was no instance of serious toxicity or side effects subsequent to vaccination for which premature decoding was required. All the vaccine candidates were safe for human use. Decoding was done after the completion of the second resurvey in December 1998. Results for vaccine efficacy are based on examination of more than 70% of the original "vaccinated" cohort population, in both the first and the second resurveys. It was possible to assess the overall protective efficacy of the candidate vaccines against leprosy as such. Observed incidence rates were not sufficiently high to ascertain the protective efficacy of the candidate vaccines against progressive and serious forms of leprosy. BCG+ killed *M. leprae* provided 64% protection (CI 50.4-73.9), ICRC provided 65.5% protection (CI 48.0-77.0), M.w gave 25.7% protection (CI 1.9-43.8) and BCG gave 34.1% protection (CI 13.5-49.8). Protection observed with the ICRC vaccine and the combination vaccine (BCG + killed *M. leprae*) meets the requirement of public health utility and these vaccines deserve further consideration for their ultimate applicability in leprosy prevention.

HARI, S.M., GUPTE, M.D. Quality control tests for vaccines in leprosy vaccine trial, Avadi. *Indian J. Leprosy*, v.70, n.4, p.389-395, Oct-Dec, 1998.

All the vaccines supplied for the large scale comparative leprosy vaccine trial of ICRC bacilli, M.w, BCG plus killed *M. leprae* (candidate vaccines), BCG and normal saline (control arms) at CJIL Field Unit, Chennai were tested for quality control by the suppliers following the procedures laid down in the WHO protocol for killed *M. leprae*. Quality control for BCG was carried out at BCG vaccine laboratory as per protocol. Toxicity and sterility tests were done on all the vaccine batches/lots received. As part of the quality control, bacterial count, and protein estimation were also done. Studies showed that the bacterial content and protein concentration were comparable with the original preparations. Vaccines were free from micro-organisms, toxic materials and safe for human use. Thus the quality of all vaccine preparations was satisfactory.

NATRAJAN, M., K, KATOCK, V.M. Histology and immunohistology of lesions clinically suspicious of leprosy. *Acta Leprol.*, v.11, n.3, p.93-98, 1999.

Forty-six patients presenting with lesions clinically suspicious of leprosy were selected among patients attending the outpatient department (OPD) of our Institute. The lesions were biopsied deeply for histological analysis. The cases chosen commonly belonged to the 20-35 years age group, were predominantly males, with rare cases of leprosy within the family (2/46, 4.35%). The clinical presentation in most of the cases was that of a solitary lesion, (44/46, 95.65%) located in one of the extremities (40/46, 86.95%). A positive Mitsuda reaction could be elicited in 40% of the cases. Routine histopathologic analysis using defined criteriae, has established the diagnosis of leprosy in 16/46 (34.78%) cases with positivity for acid-fast bacilli in 4 cases. The remaining cases (25/46, 54.35%) exhibited a non-specific histopathology with a perivascular/periadnexal mononuclear cell infiltrate, few (5/46, 10.86%) exhibited minimal or no histopathological features. The sections with nonspecific or minimal pathology when immunostained for the presence of mycobacterial antigen exhibited positivity in 11/30 (36.6%) cases. Presuming the features observed to be consequent to the presence of antigens nearby, the diagnosis of leprosy was significantly enhanced compared to the diagnosis achieved with routine histopathology alone.

Keywords: Leprosy — Suspicious leprosy — Histopathology — Immunohistology — Diagnostic.

SACHDEVA, G. et al. Lymphoproliferative responses of leprosy patients and healthy controls to nitrocellulose-bound *M. leprae* antigens. *Int. J. Leprosy*, v.67, n.2, p.133-142, June, 1999.

The lymphoproliferative responses of 51 leprosy patients and 11 healthy contacts were analyzed using the nitrocellulose-bound specific antigen fractions from the cell-free extract of *Mycobacterium leprae*. The main proliferation-inducing fraction for peripheral blood mononuclear cells of the healthy contacts was found to be the Fraction II, bearing antigens in the range of 66 — 45 kDa. However, this fraction failed to induce lymphoproliferation in the leprosy patients, unlike healthy contacts ( $p < 0.032$ ). The number of responders as well as the strength of the responses to 66 — 45 kDa proteins were found to be low in the leprosy patients compared to be healthy contacts. Further, preliminary analysis with the subfractions of Fraction II produced a similar pattern, suggesting that the immune response to the antigens in the range of 66 — 45 kDa *M. leprae* proteins remains suppressed in subjects with clinical signs and symptoms of the disease.

## OFTALMOLOGIA OPHTHALMOLOGY

KUNTHESETH, S. Reanimation of the lagophthalmos using stainless steel weight implantation; a new approach and prospective evaluation. *Int. J. Leprosy*, v.67, n.2, p.129-132, June, 1999.

Weight implants have been used for over 30 years in surgical rehabilitation following lagophthalmos. However, there has been a renewed interest among ophthalmologists in recent years. The weight implant technique combined with lateral canthus resuspension was performed on 22 eyes in Thai patients. It is a reliable method for correcting lagophthalmos and ectropion. In previous studies almost pure gold was used in 99.99% of eyelid implants. However, we wanted to use other materials which are not expensive and are readily available. A stainless steel plate was selected. The majority of our surgeries were done with a stainless steel weight implant of 1.368 g. Patients were followed for 7 to 55 months, and no rejections of the implants were observed. This study achieved a 90% success rate, and showed that a stainless steel plate is an alternative to gold for the weight implant technique.

## PESQUISA - RESEARCH

OGDEN, J.A., PORTER, J.D.H. Leprosy: applying qualitative techniques to research and intervention. *Leprosy Rev.*, v.70, n.2, p.129-135, June, 1999.

Leprosy is, after all, far more than a biomedical phenomenon. It maintains its grip on those human population already suffering from poverty, inadequate housing, and nutritional deprivation.... Society contributes to the suffering caused by this disease, and society must use every means at its disposal to mitigate that suffering.

## PSICO-SOCIAL - PSYCHOSOCIAL

HELENE, Lúcia Maria Frazo, ROCHA, Marly Theoto. Identificação de alguns problemas psicossociais em portadores de hanseníase utilizando para a análise os recursos da informática / Identification of some psychosocial aspects in patients with leprosy using computerized analyses resources. *Rev. Esc. Enfermagem USP*, v.32, n.3, p.199-207, out. 1998.

O presente estudo teve como objetivo identificar nos pacientes com hanseníase alguns problemas psicossociais, como preocupações e mudanças ocorridas em relação à família, aos amigos, ao emprego e a si próprio, após terem sido informados do diagnóstico da doença. Na metodologia foram utilizados alguns recursos da informática, como o programa KARDS, gerenciador da base de dados, e o software JARGAO, que possibilitou a tarefa de analisar em linguagem natural os depoimentos dos pacientes, obtidos por meio de entrevista composta por duas perguntas abertas. Os resultados encontrados evidenciaram que após o diagnóstico da doença a maioria dos pacientes estudados apresentava preocupações e manifestava algum tipo de mudança em relação à família, aos amigos, ao emprego e a si próprios. As preocupações estavam relacionadas principalmente à possibilidade de transmitir a doença, especialmente para os familiares, e à incerteza da cura. As mudanças diziam respeito especialmente ao aparecimento de sintomas que, segundo os pacientes, poderiam provocar reações discriminatórias por parte de outras pessoas. Esses fatos levavam os pacientes a não contar aos amigos sobre sua doença. (AU).

OLIVEIRA, Hegles Rosa de, BEDRICKOW, Bernardo, SACK, Marli Coelho M. A. Hanseníase no ambiente de trabalho / Leprosy in the workplace. *Rev. bras. saúde ocup.*, v.24, n.91/92, p.49-55, jun. 1998.

Apesar de ser uma doença conhecida há milhares

de anos, e de atualmente ter tratamento que leva à cura, a hanseníase continua a se espalhar principalmente nos países mais pobres. O Brasil ocupa o primeiro lugar em número de casos da América, aproximadamente 13 por 10 mil habitantes, dados de 1993. Desde 1986 o Ministério da Saúde vem priorizando este agravo, tendo como objetivo atingir a meta de reduzir os coeficientes de prevalência a níveis inferiores a um paciente em cada 10.000 habitantes até o ano 2.000. Em 1996 o Ministério da Saúde, junto com a OMS, elegeu a empresa como um local a mais em que se pode diagnosticar novos casos de hanseníase. Um trabalho que deve ser desenvolvido em conjunto com os Centros de Referência em Saúde os Trabalhadores e Centros de Vigilância Epidemiológica. (AU).

## REABILITAÇÃO REHABILITATION

VAN BRAKEL, W.H., REED, N.K., REED, D.S. Grading impairment in leprosy. *Leprosy Rev.*, v.70, n.2, p.180-188, June, 1999.

The aim of the paper is to discuss the concept of 'severity grading' in relation to impairment in leprosy, and to describe the use of an impairment sum score, the Eyes, Hands, Feet (EHF) score, as an indicator of the severity and the evolution of impairment over time. The use of an impairment sum score, the EHF score, is illustrated using data on impairment at diagnosis and after a 2-year interval from MB patients released from MDT in the Western region of Nepal. The WHO 1988 'disability' grading scale (0-2, for both eyes, hands and feet — six sites) was used as a measure of impairment. For the analysis, the WHO grades for the six sites were summed to form an EHF score (minimum 0, maximum 12). The sensitivity to change over time of the EHF score was compared with that of the 'method of maximum grades'. Using the 'method of maximum grades', 509/706 patients (72%) appeared not to have changed in impairment status, compared with only 399 (56.5%) with the EHF score. Improvement or deterioration of impairment status was missed in 113 patients (16%). In 216/706 patients (30-6%), the changes detected with the EHF score were bigger than those revealed by the method of maximum grades. The six components of the WHO impairment grading may be added up to form a EHF sum score of impairment. This score can be used to monitor changes in impairment status in individuals or in groups. It should be recorded and reported at least at diagnosis and release from treatment. Reporting could be done as the 'proportion of patients with improved EHF score', 'stable EHF score worse', and 'proportion of patients without impairment',

'proportion with WHO grade 1' and 'proportion with WHO grade 2'. It is recommended that the concepts and terminology of the WHO International Classification of Impairments, Activities and Participation (ICIDH-2) be adopted in the field of leprosy, particularly for the areas of prevention of impairment and disability and rehabilitation. The 'WHO disability grade' should be renamed 'WHO impairment grade'.

## TERAPÊUTICA - THERAPEUTIC

KAMPIRAPAP, K. et al. DNA amplification for detection of leprosy and assessment of efficacy of leprosy chemotherapy. *Int. J. Leprosy.*, v.66, n.1, p.16-21, March, 1998.

Polymerase chain reaction (PCR) for the detection of *Mycobacterium leprae* was applied to fresh skin biopsies and slit-skin smears from 122 untreated leprosy patients. The PCR positivity rates in biopsies were 95.66% in multibacillary (MB) cases and 44.2% in paucibacillary (PB) cases. Following 1 month of treatment, MB cases declined by 54.3% and PB cases by 61.8% of initial values. Six-month values also declined from initial positivity rates to 50.3% and 53.8% of initial values in MB and PB, respectively. Larger declines in the rate of positivity were seen for skin-smear samples at 1 and 6 months in both MB and PB, but overall PCR positivity rates were lower than biopsy rates for *M. leprae*.

OOMMEN, S.T. et al. Effect of oil of hydnocarpus on wound healing. *Int. J. Leprosy*, v.67, n.2, p.154-158, June, 1999.

Oil of hydnocarpus has been replaced by other chemotherapeutic agents which have a better mycobactericidal effect. However, none of the currently used antileprosy drugs has been reported to have a positive effect in wound healing. Anecdotal reports claim that leprosy patients who have taken capsules containing oil of hydnocarpus orally have shown more rapid wound healing than those not receiving it. In view of these reports, a pilot experimental study was undertaken to determine the effect of the oil of hydnocarpus in wounds experimentally inflicted on male Wistar rats. The wound-healing effect of oil of hydnocarpus was studied with reference to collagenation and the strength of the scar tissue. The drug-treated group showed a significant increase in body weight and strength of scar tissue in the incision model and, also, increased strength of the collagen tissue and hydroxyproline content in the dead

space model. The results of this pilot study indicate that the oil of hydnocarpus, which also has antileprotic activity, could be a useful adjunct in the healing of wounds and ulcers in leprosy patients.

SUGUMARAN, S.T. Leprosy reactions — complications of steroid therapy. *Int. J. Leprosy*, v.66, n.1, p.10-15, March, 1998.

The adverse effects of corticosteroid therapy while treating 830 patients suffering from leprosy reaction (type 1 = 581; type 2 = 249) are presented. Some of the adverse effects were cosmetically distressing, while others were disabling. Patients suffering from type 2 reaction — because of the tendency of the reaction to recur over a long time — needed steroids for a longer duration; hence, adverse effects were more frequent. Measures to counter some of the adverse effects are suggested and the need to identify drugs with potentially less adverse effects is emphasized.

YAO, K.J. et al. Profil de la maladie de Hansen dans le district sanitaire d'Odienné, region Nord-Ouest de la Côte d'Ivoire. *Acta Leprol.*, v.11, n.3, p.83-87, 1999.

Pour déterminer les caractéristiques de la lèpre dans le district sanitaire d'Odienné au nord-ouest de la Côte d'Ivoire, une étude retrospective a été réalisée portant sur les dossiers de malades de 4 années. Cette étude a montré que 107 malades de la lèpre ont été détectés de 1994 à 1997 et ont tous bénéficié de la polychimiothérapie. La lèpre touchait aussi bien les jeunes que les adultes (4 à 95 ans) avec une légère prédominance féminine (55%). Les malades ont été dépistés et mis sous polychimiothérapie 5 ans en moyenne après les premiers signes. Les paucibacillaires représentaient 72.5% des cas et étaient plus souvent des femmes. Les infirmités au moment du dépistage étaient observées chez 25.7% des patients. Elles étaient plus fréquentes chez les multibacillaires (43.3%) que chez les paucibacillaires (19%). Par ailleurs les infirmités de degré 2 représentaient 10.1%. La plupart de ces invalidités étaient localisées aux mains. Enfin, les efforts de sensibilisation semblent avoir permis à une majorité des malades en 1997 de se présenter spontanément en consultation des ('apparition des signes de la maladie. Cette sensibilisation doit être soutenue.

Mots clés: Lèpre — Polychimiothérapie — Invalidité — Odienné — Côte d'Ivoire.