Aspectos Psicosociais

Barkataki P, Kumar S, Rao PS. Knowledge of and attitudes to leprosy among patients and community members: a comparative study in Uttar Pradesh, India. Lepr Rev 2006 Mar; 77(1):62-8.

The roles of literacy and gender in enhancing help seeking behaviour in leprosy need further research in order to maximize the effectiveness of health education programmes. A study on leprosy knowledge and attitudes was carried out in Uttar Pradesh, one of the hyper endemic states for leprosy in north India, on a random sample of 130 leprosy patients, 120 non-leprosy patients, and 150 community members. A questionnaire was prepared, tested and administered in Hindi, the local language, by a qualified interviewer. Statistical analyses were done in each group by gender and literacy, and compared. Almost everyone in the three groups knew of leprosy, but only a larger proportion of leprosy patients (60%) mentioned anaesthetic patch, as compared to about 20% or less in the other groups. A vast majority in all groups mentioned bad blood, or divine curse as the cause. Even among leprosy patients, less than 10% of illiterates and only about 40% of literates cited infection as the cause of leprosy. Literates had a better, though still quite a poor knowledge on the symptoms as well as the causation of leprosy. However, almost all stated that leprosy was curable, though they couldn't mention MDT specifically. They felt that not all patients need have deformity. About 20-30% of the leprosy affected, but nearly 50-60% in the other groups stated that there was discrimination. Nearly 70% felt that leprosy affected social participation, over 90% attributing this to adverse social stigma. Multivariate analyses, adjusted for sex, confirmed the significant association of literacy with both knowledge and attitudes. In the light of massive health education and IEC campaigns, the findings from this study are disappointing. Adult literacy programmes combined with more innovative focused approaches to suit various target audiences can impact knowledge and attitudes better.

Biologia Molecular

Chedore P, Broukhanski G, Shainhouse Z, Jamieson F. False-positive amplified Mycobacterium tuberculosis direct test results for samples containing Mycobacterium leprae. J Clin Microbiol 2006 Feb; 44(2):612-3.

Nucleic acid amplification tests are widely used in mycobacteriology laboratories to rapidly detect Mycobacterium tuberculosis complex directly in clinical specimens. A positive result provides an early diagnosis of tuberculosis, allowing initiation of appropriate therapy and public health measures.

Biologia Molecular/Imunologia

Kim MH, Choi YW, Choi HY, Myung KB, Cho SN. The expression of RAGE and EN-RAGE in leprosy. Br J Dermatol 2006 Apr; 154(4):594-601.

BACKGROUND: Extracellular newly identified RAGE-binding protein (EN-RAGE) is a ligand of the receptor for advanced glycation endproducts (RAGE) and has been termed S100A12. The ligation of EN-RAGE with RAGE on the endothelium, mononuclear phagocytes and lymphocytes triggers cellular activation with the generation of the key proinflammatory mediators interleukin (IL)-1beta and tumour necrosis factor (TNF)-alpha. OBJECTIVES: The aim of this study was to investigate the presence of RAGE and EN-RAGE, their spatial localization and their coexpression in leprosy lesions. METHODS: Immunohistochemistry and confocal laser scanning microscopy were used to evaluate the expression of RAGE and EN-RAGE in leprosy. By enzyme-linked immunosorbent assay, RAGE and EN-RAGE were detected in the serum. RESULTS: (1) In the multibacillary (MB) and paucibacillary (PB) groups, the level of RAGE production was significantly higher than in patients with atypical mycobacterial infection or sarcoidosis ($P < 0.01$). In the MB group, the production of RAGE was higher than in the PB group ($P < 0.01$), and it was higher in patients without the lepra reaction than in patients with the lepra reaction ($P < 0.05$). (2) In MB, PB and atypical mycobacterial infection, the level of EN-RAGE production was significantly higher than in sarcoidosis ($P < 0.01$). (3) In the confocal laser scanning microscopic examination, the RAGE and EN-RAGE proteins were detected in lepromatous leprosy. These proteins are spatially colocalized along the cell surface, which is in agreement with their receptor-ligand interaction. (4) A comparable amount of EN-RAGE was detected in the serum of the MB and PB groups. Patients with the reaction showed a higher level of EN-RAGE than patients without the reaction in leprosy. CONCLUSIONS: Our data suggest that in leprosy, RAGE and EN-RAGE may be involved in the proinflammatory process rather than the antimycobacterial activity, especially during the lepra reaction. The blockade of the interaction of RAGE and EN-RAGE at the early stage of the inflammatory process may minimize the inflammatory response and consequent tissue damage or the sequelae of leprosy.

Biologia Molecular/Tratamento Reação Tipo 1

Pesce C, Grattarola M, Menini S, Fiallo P. Cyclooxygenase 2 expression in vessels and nerves in reversal reaction leprosy. Am J Trop Med Hyg 2006 Jun; 74(6):1076-7.

Tissue expression of cyclooxygenase (COX)2, an inducible enzyme synthesizing eicosanoids in inflammation, was studied in reversal reaction (RR) leprosy in comparison with nonreactionary leprosy. COX2 was consistently expressed in cells of the mononuclear-macrophage lineage across the leprosy spectrum. Only in RR, the following two additional sites showed COX2 expression in the dermis and subcutis: 1) microvessels and 2) nerve bundles and isolated nerve fibers. The same sites also express vascular endothelial growth factor (VEGF). This is in keeping with experimental models relating VEGF to COX2 expression, with VEGF enhancing prostaglandin production through COX2 stimulation and prostaglandin synthase expression. We postulate that selective COX2 inhibitors, which are currently used in several inflammatory conditions, could be considered for RR treatment to reduce acute symptoms caused by tissue edema and possibly prevent long-term nerve damage, the main complication of RR.

Clínica

Mamm A, Michalany NS, Weckx LLM, Neto Pimentel DR, Hirata CHW, Alchorne MM. A mucosa oral na hanseníase: um estudo clínico e histopatológico / The oral mucosa in leprosy: a clinical and histopathological study. Rev bras otorrinolaringo 2006 Maio-Jun; 72(3):312-6.

INTRODUÇÃO: a anseníase multibacilar pode causar comprometimento da mucosa oral, com ou sem lesões aparentes. Há poucos estudos que tratam deste assunto na era da multidrogaterapia. OBJETIVO: Verificar a freqüência do comprometimento da mucosa oral em pacientes de hanseníase multibacilar. CASUíSTICA E MÉTODOS: Foi realizado um estudo transversal em vinte pacientes de hanseníase multibacilar, não-tratados, atendidos consecutivamente em Dracena, São Paulo, entre o período de 2000 e 2002. Foi realizado exame clínico completo da mucosa oral. Os pacientes foram submetidos a biópsias na mucosa jugal, na língua e no palato mole, em alteração ou em pontos pré-estabelecidos. Os cortes foram corados pelas técnicas da hematoxilina-eosina e Ziehl-Neelsen. O encontro de granuloma e bacilos álcool-ácido-resistentes ao exame histopatológico determinou o comprometimento específico. RESULTADOS: O estudo envolveu 19 pacientes multibacilares com tempo médio de evolução de 2,5 anos. Ocorreu comprometimento histopatológico específico em apenas um paciente virchowiano, com mucosa oral clinicamente normal, na língua e no palato mole. CONCLUSÕES: 1. Alteração clínica na mucosa oral não implica em comprometimento pela doença, é necessário confirmação histopatológica. 2. Alterações clínicas específicas aparentes são raras. 3. A mucosa oral clinicamente normal pode exibir comprometimento histopatológico específico.(AU)INTRODUCTION: Multibacillary leprosy may involve the oral mucosa, with or without apparent lesions. There are few studies that deal with this issue in the era of multidrug therapy. AIM: To assess the frequence of oral mucosa involvement in multibacillary leprosy patients. PATIENTS AND METHODS: A transversal study with twenty non-treated multibacillary leprosy patients. The patients were treated in Dracena, São Paulo, between 2000 and 2002. Clinical examination of the oral mucosa was carried out. All patients were submitted to jugal mucosa, soft palate and tongue biopsies, in altered or in pre-established sites. The cross-sections were stained by techniques of hematoxilin-eosin and Ziehl-Neelsen. Granuloma and alcohol-acid-resistant bacilli findings determined the specific histopathological involvement. RESULTS: The study involved 19 patients with an average of 2.5 years of disease progression. Specific histopathological involvement occurred in the tongue and soft palate of one lepromatous patient with an apparently normal oral mucosa. CONCLUSIONS: (1) Clinical alterations in the oral mucosa does not imply disease involvement, it is necessary to have histopathological confirmation. (2) Apparent specific clinical alterations are rare. (3) The clinically normal oral mucosa can show specific histopathological involvement.(AU).

Clínica

Ferreira LM, Pereira RN, Diniz LM, Souza Filho JB. Caso para diagnóstico / Case for diagnosis An bras dermatol. 2006 Jun; 81(3):291-3.

Descreve-se caso clínico de paciente tratado de hanseníase dimorfa, que utilizou automedicação, com doses variadas de corticosteróide oral, por longo período, devido à neuropatia hansênica. Desenvolveu lesão nódulo-cística, amarelada, com algumas crostas, envolta por halo eritêmato-acastanhado, na face interna da perna esquerda. O exame micológico direto confirmou a hipótese diagnóstica de feo-hifomicose. (AU).

Clínica

Helling CA, Locursio A, Manzur ME, Sormani Fonseca ML. Remitting seronegative symmetrical synovitis with pitting edema in leprosy. Clin Rheumatol 2006 Feb; 25(1):95-7.

A 67-year-old man, who had widespread and well-defined erythematous violaceous hyperkeratotic plaques on his skin, was diagnosed with borderline tuberculoid leprosy. The patient began treatment with clofazimine, rifampicin, and dapsone, but 15 days afterwards he complained of acral edema with godet sign. Magnetic resonance imaging was done, and the case was interpreted as remitting seronegative symmetrical synovitis with pitting edema. About 8 mg/day of methylprednisolone were started with excellent response

Clínica

de Moraes Braga AC, Reason IJ, Maluf EC, Vieira ER. Leprosy and confinement due to leprosy show high association with hepatitis C in Southern Brazil. Acta Trop 2006 Jan; 97(1):88-93.

Leprosy is a disease, which is accompanied by cellular immunity defects, which may increase the susceptibility of patients in developing co-infections. The association of leprosy with hepatitis C virus (HCV) infection, human immunodeficiency virus types 1 and 2 (HIV 1+2) infection and human T-lymphotropic virus types I and II (HTLV I+II) infection have previously been described in different populations. In this study, the prevalence of these infections was determined in 199 Southern Brazilian leprosy patients and in 681 matched controls. Antibodies to HCV were positive in 3.52% of the patients (7/199) and in 0.15% of the controls (1/681; odds ratio (OR)=24.79; 95% CI=3.03-202.74; p=0.0002). An increased risk of HCV infection was observed in institutionalized patients (OR=14.95; 95% CI=1.76-127.03; p=0.004) and in the lepromatous form of the disease (OR=7.67; 95% CI=0.43-136.62; p=ns). Anti-HIV 1+2 antibodies were positive in only one out-patient (1/199; 0.50%) and in none of the controls (0/681; OR=3.43; 95% CI=0.21-55.16; p>0.05). No leprosy patient was positive for anti-HTLV I+II antibodies. These results demonstrate an increased prevalence of HCV infection in leprosy patients from South Brazil and that both institutionalization and lepromatous form of the disease confer higher risk to HCV infection. These data emphasizes the importance of monitoring hepatitis C and leprosy interactions and the need of special care to institutionalized and lepromatous patients in preventing HCV co-infection.

Clínica

Mishra A, Saito K, Barbash SE, Mishra N, Doty RL. Olfactory dysfunction in leprosy. Laryngoscope 2006 Mar; 116(3):413-6.

Leprosy (Hansen's disease) is associated with a high incidence of nasal pathology. Despite this fact, the influence of this disorder on the sense of smell is poorly understood. In this study, we administered a standardized 12-item odor identification test to 77 patients with three types of leprosy: tuberculoid (n = 9), borderline (n = 42), and lepromatous (n = 26). All three types exhibited significantly lower test scores than their respective age-, sex-, and smoking-habit-matched controls. Patients with lepromatous leprosy exhibited significantly lower test scores than those with the other two types. Only patients with lepromatous leprosy exhibited meaningful improvement in smell function after treatment. No association between disease duration, per se, and the severity of the olfactory deficit was present. Overall, 100% of the patients exhibited olfactory dysfunction, suggesting that earlier prevalence estimates based on nonstandardized olfactory testing have underestimated the prevalence of this problem.

Clínica

Oliveira JBA. Hanseníase: a doença secular do mundo subdesenvolvido / Hanseniase: the secular disease of the underdeveloped world Rev Soc Bras Clín Méd 2006 Jan/Fev; 4(1):24-7.

A finalidade deste artigo é relatar um caso de hanseníase,em sua forma virchowiana, fazendo também uma revisão sobre a doença, desconhecida não só por leigos, como também pelos profissionais de saúde. Mostra que a doença tem tratamento e cura, bastando para tanto precocidade de diagnóstico e de terapêutica (AU).

Clínica

Scollard DM, Adams LB, Gillis TP, Krahenbuhl JL, Truman RW, Williams DL. The continuing challenges of leprosy. Clin Microbiol Rev 2006 Apr; 19(2):338-81.

Leprosy is best understood as two conjoined diseases. The first is a chronic mycobacterial infection that elicits an extraordinary range of cellular immune responses in humans. The second is a peripheral neuropathy that is initiated by the infection and the accompanying immunological events. The infection is curable but not preventable, and leprosy remains a major global health problem, especially in the developing world, publicity to the contrary notwithstanding. Mycobacterium leprae remains noncultivable, and for over a century leprosy has presented major challenges in the fields of microbiology, pathology, immunology, and genetics; it continues to do so today. This review focuses on recent advances in our understanding of M. leprae and the host response to it, especially concerning molecular identification of M. leprae, knowledge of its genome, transcriptome, and proteome, its mechanisms of microbial resistance, and recognition of strains by variable-number tandem repeat analysis. Advances in experimental models include studies in gene knockout mice and the development of molecular techniques to explore the armadillo model. In clinical studies, notable progress has been made concerning the immunology and immunopathology of leprosy, the genetics of human resistance, mechanisms of nerve injury, and chemotherapy. In nearly all of these areas, however, leprosy remains poorly understood compared to other major bacterial diseases.

Clínica

Ustianowski AP, Lawn SD, Lockwood DN. Interactions between HIV infection and leprosy: a paradox. Lancet Infect Dis 2006 Jun; 6(6):350-60.

Early in the HIV epidemic it was feared that the disease would undermine leprosy control, as has occurred with tuberculosis. It was predicted that patients with leprosy and HIV coinfection would have an increased risk of lepromatous disease and a faster clinical evolution, and that the leprosy would be more difficult to treat. None of these concerns have materialised and the interaction between HIV and Mycobacterium leprae seems to be far more subtle than that between HIV and tuberculosis. We review the epidemiological, clinical, and pathological data relating to leprosy/HIV coinfection. The published epidemiological data are limited in quality but show neither an increased HIV prevalence among leprosy cases nor an alteration in clinical spectrum of leprosy among coinfected patients. Some data suggest that immune-mediated reactions that complicate leprosy occur at a higher frequency in coinfected patients. Leprosy has now been reported presenting as immune reconstitution disease among patients commencing highly active antiretroviral treatment. Histopathological observations reveal a normal spectrum of appearances in biopsies of leprosy lesions from coinfected patients, even among those with advanced immunodeficiency. These observations suggest that cell-mediated immune responses to M leprae are preserved at the site of disease despite evidence that these responses are abrogated systemically, by contrast with tuberculosis, in which the host granulomatous response is impaired by HIV coinfection. We speculate that this paradox may relate to differences between the activation state and rates of cell turnover within leprosy and tuberculosis granulomas that differentially affect the susceptibility of the granulomas to HIV. The interactions between leprosy and HIV have been little studied and further research on the clinical, pathological, and management aspects of this coinfection is warranted.

Epidemiologia

Bakker MI, Hatta M, Kwenang A, Van Mosseveld P, Faber WR, Klatser PR. Risk factors for developing leprosy--a population-based cohort study in Indonesia.
Lepr Rev 2006 Mar; 77(1):48-61.

We identified risk factors associated with increased yearly incidence rates of leprosy in five island populations. Age, sex, household size and Mycobacterium leprae-specific antibodies as well as contact factors were studied. Of 94 index patients (patients diagnosed in 2000), 43 (46%) were classified as multibacillary (MB), 17 (19%) were seropositive for PGL-1 [corrected] antibodies and 6 (7%) had M. leprae DNA in nasal swabs as determined by polymerase chain reaction (PCR) testing. All PCR positive patients were also seropositive. Forty-four of 4903 initially symptom free persons developed leprosy within 4 years, giving an incidence rate of 298 per 1000 person-years. Men had a 22 times higher risk [95% confidence interval (CI): 1.2-4.1] of developing leprosy than women. People living in households with more than 7 members had a 3.1 times higher risk (95% CI: 1.3-7.3) than households of 1-4 members. Persons who were seropositive in 2000 had a 3.8 times higher risk (95% CI: 1.1-12.6) than seronegative persons. Household contacts of MB patients had an adjusted hazard ratio (aHR) of 4.6 (95% CI: 1.6-12.9) and household contacts of PCR positive patients an aHR of 9.36 (95% CI: 2.5-34.9) compared with non-contacts. Patients with PCR positive nasal swabs, suggesting nasal excretion of M. leprae, are probably the patients with the highest transmission potential. Since all index patients who were PCR positive were also seropositive, serology seems an adequate tool to identify these patients. Preventing seropositive persons from becoming seropositive and infectious patients might break the chain of transmission.

Epidemiologia

Ishii N, Mori S, Suzuki K. [Situation of global leprosy]. Nihon Hansenbyo Gakkai Zasshi 2006 Feb; 75(1):41-9.

The epidemiological situation of leprosy is reported by the health division of each country to WHO. The reported data is collected by WHO and is immediately run on the Weekly Epidemiological Record. On this latest edition, data from the beginning of 2005 was reported. According to this edition, the importance of the fact that nine countries in the world has yet to achieve the WHO goal of eliminating leprosy, early detection and constantly providing drugs free of charge, and continuing to carry out the leprosy control activities within the general health services.

Epidemiologia

Norman G, Raja Samuel Bhushanam JD, Samuel P. Trends in leprosy over fifty years in Gudiyatham Taluk, Vellore, Tamil Nadu. Indian J Lepr 2006 Apr-Jun; 78(2):167-85.

This paper presents epidemiological trends over a fifty-year period observed in a defined population served by the Schieffelin Leprosy Research and Training Centre (SLR & TC), Karigiri, Vellore District in Tamil Nadu. It covers three distinct periods, namely, the pre-MDT era with dapsone monotherapy, the MDT era under a vertical leprosy control programme and the MDT era after leprosy control services were integrated into the general health services. Prevalence rates have declined steadily from 125 per 10,000 population at the time of introduction of MDT in 1982 to 5 per 10,000 at the time of integration in 1997 to less than 1 per 10,000 in 2005. The new case-detection rate was 5.4 per 10,000 when the field programme started in 1962, and held steady at 15-20 per 10,000 between 1970 and 1980. It then showed a gradual fall from 10.8 per 10,000 in 1985 to 3.9 at the time of integration, and continued to fall in the post-integration period and was 0.8 per 10,000 in 2005. The mean age at detection showed a gradual increase from 23.4 years in the dapsone era to 31.2 years in the post-integration period. The male: female ratio showed a preponderance of males almost throughout the reference period. While polar types of leprosy (TT & LL) were common in the dapsone era, more of borderline leprosy (BT & BL) cases was seen more recently. MB rates that were high initially, declined steadily during monotherapy and stabilized between 10% and 12% during the vertical MDT programme and is showing an increase in the post-integration-period. The proportion of cases with Grade 2 disability at registration showed a gradual decline during the monotherapy period, remained relatively unchanged at 8%-10% during the the MDT period, and showed a sharp rise in the immediate post-integration period before falling. Analysis of trends of leprosy in a well-defined geographical population over a fifty-year period gives useful information on how the disease has evolved over the years. It provides opportunities to explore the reasons for the changes observed, though one has to be cautious while interpreting such data due to changes in definition, the play of operational factors, and changes in policies and strategies.

Epidemiologia

Raja RB. New case-detection trends in a multi-drug therapy programme: definite reduction in sight. Indian J Lepr 2006 Apr-Jun; 78(2):123-36.

MDT has made a visible impact on leprosy in Andhra Pradesh as reflected by reduction of prevalence as well as in new case-detection, which is used as a proxy for incidence of the disease. Such reductions have also been seen in West Godavari district and the Damien Leprosy Centre at Vegavaram (an NGO project), where MDT is being implemented since 1988.

Epidemiologia

Ranganadha Rao PV, Peri S, Porichha D, Nehemaiah E. A review of trends in new case-detection in Subarnapur district of Orissa. Indian J Lepr 2006 Apr-Jun; 78(2):153-65.

Trends in new case-detection are analysed by reviewing the demographic and leprosy epidemiological data and current indicators in Subarnapur district, Orissa State and India. Population-specific new case-detection rates were calculated for analysis. The trend of skin-smear positive cases over a period of 10 years was reviewed in respect of smear positive cases of 1991. During the years 2002 to 2004, a sudden fall was noticed in the new cases detected in both India and Orissa state, whereas the decline in Subarnapur district was more gradual. The fall in the female-specific new case-detection rates is found to be rapid from 11 to 2.5 over the last three years. This also indirectly indicated the health-seeking behaviour of women in accessing health services and hence required a changed strategy. A similar rapid decline was observed in child-specific new case-detection rates. On analysiS, the decline of highly bacilliferous cases from 1991 to 2001 was found to be statistically significant. The analysis also brought out the fact that cases with bacterial index of 1+, 2+ and 3+, though small in numbers, were detected during the last three years indicating continued presence of cases with low bacterial density in the community. The review indicates a definite decline in the occurrence of new cases in all groups. Caution needs to be exercised about continued presence of cases with low bacterial index though in small numbers. The rapid decrease of cases in all groups during the years 2004 and 2005 warrants meticulous surveillance. The surveillance activities could include monitoring of population-specific new case-detection rates and skin-smear positive cases at district and state levels in order to advise on leprosy eradication programme strategies

Epidemiologia

Subramanian M, Thorat DM, Krishnan CB, Baig AA, Prabakaran I, Hassan TF. Epidemiological trends of leprosy elimination in CLTRI rural field operation area, Tamil Nadu, India. Indian J Lepr 2006 Apr-Jun; 78(2):203-14.

The analysis of computerized data of patients in our Rural Field Operation Area (Kunrathur Taluk, Kancheepuram District, Tamil Nadu) from the start of MDT in 1986 has shown a decrease of leprosy prevalence from 275/10000 in 1986 to 0.7/10000 in 2005. Leprosy has been eliminated as a public health problem after 19 years of MDT implementation. Although the control programme was started in 1962, MDT implementation began only in 1986. The new case-detection rate has declined significantly from 27.3 in 1987 to 2.4/10000 in 2005 ($y = -1.6x + 2325.1$, $p = < 0.05$). The age-specific cumulative detection rates calculated showed highest case-detection at 10-14 years for total, 10-14 years for PB, 50-54 for MB, and 10-14 for both males and females. MB percentage was more among new cases in the last three years as compared to the initial three years, and this difference was found to be statistically significant, but there was no significant difference between the first three and the last three-year periods in child, male and disability rates (grade +/-2) among new cases. Thus, the declining trend in NCDR has not reflected any change in sex and age-groups of new cases. This analysis strengthens the hypothesis of sub-clinical cases possibly transmitting the disease and MB cases accruing after long incubation period.

Epidemiologia

Vijayakumaran P, Prasad B, Krishnamurthy P. Trends in new case-detection leprosy in Bihar, India. Indian J Lepr 2006 Apr-Jun; 78(2):145-51.

Multi-drug therapy (MDT) has been successfully implemented in all leprosy endemic countries. Prevalence of leprosy has declined remarkably after the introduction of MDT. Detection of new cases did not show expected decline in many endemic and low endemic situations. Bihar in India started implementing MDT in 1993. The Damien Foundation India Trust (DFIT) supported the leprosy control programme in Bihar by providing a district technical support team (DTST) for each district assigned to DFIT. Effective coverage was achieved in 1996-98. Data for the period 1996-2004 from 10 districts are presented in this paper. The total population in these districts was 29.4 million. Deformity among newly detected leprosy patients declined to 1% indicating effective early case-detection. Intensive new case-detection activities were in vogue contributing to high new case-detection rate (NCDR). The NCDR remained high during the 9-year period reported here and did not show any declining trend.

Epidemiologia/Controle
Deps PD, Guedes BV, Bucker Filho J, Andreatta MK, Marcari RS, Rodrigues LC. Characteristics of known leprosy contact in a high endemic area in Brazil. Lepr Rev 2006 Mar; 77(1):34-40.

BACKGROUND AND PURPOSE: The annual number of new cases of leprosy has not declined in Brazil over the last 15 years, indicating that transmission continues at the same level. To study transmission, we interviewed leprosy patients about their known leprosy contact (KLC). METHODS: Clinical and demographic data were collected from 506 leprosy patients in four health units in the Metropolitan Region of Vitria, State of Espírito Santo, Brazil. SPSS 9.0 was used as a database and analysis. RESULTS: Two hundred and twenty-six (44.7%) of 506 leprosy patients reported KLC, 136 (60.2%) of 226 were parents. Among 226, the mean of KLC was 1.89 (SD +/- 1.65), and 61.3% had one KLC. KLC as a household contact was reported by 92 (40.7%) out of 226, and 121 (53.5%) had no household contact. KLC were most frequently sisters and brothers in the PB cases, and sons/daughters in MB cases. Mothers occurred more frequently as a KLC than fathers. From the leprosy patients that had reported household contacts, 73% said that at the onset of their skin lesions, the KLCs were either undergoing were not yet released from treatment (RFT), and 23.45% had not begun the treatment yet. Altogether, 62.3% of 226 cases had daily contact with the KLC. CONCLUSION: In Brazil, household contacts, including the family members (mothers, sisters and brothers), as well as the social contact need to be investigated by the control programs.

Epidemiologia/Controle
Deps PD, Guedes BV, Bucker Filho J, Andreatta MK, Marcari RS, Rodrigues LC. Delay in the diagnosis of leprosy in the Metropolitan Region of Vitória, Brazil. Lepr Rev 2006 Mar; 77(1):41-7.

This paper reports on the time between the onset of the first lesion and diagnosis, defined as delay, and is based on results obtained by interviewers from a survey carried out amongst 450 leprosy patients in a leprosy endemic area in the Metropolitan Region of Vitória (MRV), state of Espirito Santo, Brazil. The mean age at diagnosis in all cases was 41.47 years and the median was 42.5 years. The mean age at diagnosis in MB (42.9 years) was greater than in PB (38.5 years). The mean of the delay in all cases was 25.25 months, median 12 months and range 0-360 months. The mean of the delay in MB (27.2 months) was greater than in PB (21.3 months). The results of this study suggest that although the delay in leprosy diagnosis in this region of Brazil was not too long when it was compared with other studies in endemic countries, it is still a problem: 65.4% of patients were diagnosed after a delay of 6 months. The Leprosy Control Programme in this state needs more effective health education in order to reduce the current period of delay before diagnosis.

Epidemiologia/Genética

Moet FJ, Pahan D, Schuring RP, Oskam L, Richardus JH. Physical distance, genetic relationship, age, and leprosy classification are independent risk factors for leprosy in contacts of patients with leprosy. J Infect Dis 2006 Feb; 193(3):346-53.

BACKGROUND: Close contacts of patients with leprosy have a higher risk of developing leprosy. Several risk factors have been identified, including genetic relationship and physical distance. Their independent contributions to the risk of developing leprosy, however, have never been sufficiently quantified. METHODS: Logistic-regression analysis was performed on intake data from a prospective cohort study of 1037 patients newly diagnosed as having leprosy and their 21,870 contacts. RESULTS: Higher age showed an increased risk, with a bimodal distribution. Contacts of patients with paucibacillary (PB) leprosy with 2-5 lesions (PB2-5) and those with multibacillary (MB) leprosy had a higher risk than did contacts of patients with single-lesion PB leprosy. The core household group had a higher risk than other contacts living under the same roof and next-door neighbors, who again had a higher risk than neighbors of neighbors. A close genetic relationship indicated an increased risk when blood-related children, parents, and siblings were pooled together. CONCLUSIONS: Age of the contact, the disease classification of the index patient, and physical and genetic distance were independently associated with the risk of a contact acquiring leprosy. Contact surveys in leprosy should be not only focused on household contacts but also extended to neighbors and consanguineous relatives, especially when the patient has PB2-5 or MB leprosy.

Genética

Mira MT. Genetic host resistance and susceptibility to leprosy. Microbes Infect 2006 Apr; 8(4):1124-31.

Leprosy is a chronic infectious disease that affects 600,000 new individuals worldwide every year. This article summarizes some of the advances achieved over the past decades towards the description of the exact number, location and nature of the genetic variants responsible for the well established genetic component controlling leprosy susceptibility in humans.

Genética/Imunologia

Wheeler E, Miller EN, Peacock CS, Donaldson IJ, Shaw MA, Jamieson SE. Genome-wide scan for loci influencing quantitative immune response traits in the Belém family study: comparison of methods and summary of results. Ann Hum Genet 2006 Jan; 70(Pt 1):78-97.

Here we report the results from a genome-wide linkage scan to identify genes and chromosomal regions that influence quantitative immune response traits, using multi-case leprosy and tuberculosis families from north-eastern Brazil. Total plasma IgE, antigen-specific IgG to Mycobacterium leprae soluble antigen (MLSA), M. tuberculosis soluble antigen (MTSA) and M. tuberculosis purified protein derivative (PPD), and antigen-specific lymphocyte proliferation (stimulation index or SI) and interferon-gamma (IFN-gamma) release to MLSA and PPD, were measured in 16 tuberculosis (184 individuals) and 21 leprosy (177 individuals) families. The individuals were genotyped at 382 autosomal microsatellite markers across the genome. The adjusted immune-response phenotypes were analysed using a variety of variance components and regression-based methods. These analyses highlighted a number of practical issues and problems with regard to implementation of the methods and, interestingly, differences were observed between several standard statistical and genetic analysis packages used. From this we determined that, for this set of traits in these pedigrees, significant p values for linkage using variance components analysis, supported by significance using the Visscher-Hopper modification of the Haseman-Elston method, provided the most compelling evidence for linkage. Using these criteria, linkage ($5.8 \times 10(-5) < p < 0.008$) was seen for: total plasma IgE on chromosome 2; IgG to MLSA on chromosomes 8, 17 and 21; IgG to PPD on chromosome 12; SI to PPD on chromosome 1; IFN-gamma to MLSA on chromosomes 6, 7, 10, 12 and 14; and IFN-gamma to PPD on chromosomes 1, 16 and 19.

Genética/Tratamento

Cambau E, Carthagena L, Chauffour A, Ji B, Jarlier V. Dihydropteroate synthase mutations in the folP1 gene predict dapsone resistance in relapsed cases of leprosy. Clin Infect Dis 2006 Jan; 42(2):238-41.

Molecular detection was compared with the mouse footpad inoculation test for detection of dapsone resistance in 38 strains of Mycobacterium leprae. Mutations of the folP1 gene (at codons 53 or 55) were found in 6 of 6 strains with high-level resistance, in 3 of 4 strains with intermediate-level resistance, and in 1 of 6 strains with low-level resistance, but not in 22 dapsone-susceptible strains. In cases of infection with strains of M. leprae carrying the folP1 mutation, therapy with dapsone may be replaced by therapy with a fluoroquinolone.

História/Epidemiologia

Lopez Roa RI, Morris MF. Leprosy in Mexico. Nihon Hansenbyo Gakkai Zasshi 2006 Feb; 75(1):51-8.

The time of the settlement of leprosy in Mexico is uncertain, however recent studies pointed out that leprosy was probably brought by Asian's migration at about 12,000 years ago and not by the Europeans conquerors during XVI and XVII centuries. Registration of leprosy has been done since the colonial era and the disease was considered as a public health problem until the year 2004 in Mexico when the incidence was achieved to be less than 1 per 10,000 as defined by the world health organization (WHO). Although the national epidemiological parameters like prevalence show the leprosy are controlled well, there are still 49 prefectures with higher prevalence in Mexico. In addition, the incidence in last 10 years has not been stably reduced, in other words the infection cycle has not been interrupted. Therefore, it is necessary to keep the careful epidemiological monitoring, and to increase the search and follow-up of new cases and their contacts in order to eliminate leprosy in this country.

História/Políticas de Saúde

Mori S, Ishii N. [Leprosy and medicine I--proposal of an isolation policy and its background]. Nihon Hansenbyo Gakkai Zasshi 2006 Feb; 75(1):3-22.

The leprosy policy of Japan began from when the government enacted [quot]law No. 11 (The leprosy prevention act)[quot] in 1907 (Meiji 40) and several leprosy sanatoriums were built and the patient who wanders about was received. Then, in rise of totalitarianism, the isolation policy of Japan gained national support under a slogan [quot]Patient Relief[quot], and it would become the big factor to which enactment of [quot]Leprosy Prevention Law[quot] in 1931 (Showa 6) and leprosy policy changed to segregation which aimed at internment of all leprosy patients. From today's research on the leprosy policy of Japan, it is internment of all leprosy patients, whole life isolation, social defense and neglect of patients' human-rights and led to many tragedy of patient. However, there is little research which can reply clearly to the question of whether the leprosy policy of Japan was really original and what the factors of led to the formation of the segregation policy. This paper focuses on the relation between leprosy policy and medicine, and from this, I make clear the similarity, or peculiarity of the isolation policy between Japan and the vest of the world, and clarify the factors of progress of the absolute isolation policy. The processes are historical and medical historical the verification of the relation between the formation of the national medicine and the progress of the isolation policy of Meiji Era, the proposal of the isolation policy by Dr. Keizo Dohi, Dr. Shibasaburo Kitasato, and Dr. Masatsugu Yamane, and the application by Dr. Kensuke Mitsuda, the decision to enact this policy and its support by the Health and Medical Bureau and the Department of the Interior, as well as many factors.

Imunologia

Barreiro LB, Quach H, Krahenbuhl J, Khaliq S, Mohyuddin A, Mehdi SQl. DC-SIGN interacts with Mycobacterium leprae but sequence variation in this lectin is not associated with leprosy in the Pakistani population. Hum Immunol 2006 Jan-Feb; 67(1-2):102-7.

The C-type lectin DC-SIGN is involved in early interactions between human innate immune cells and a variety of pathogens. Here we sought to evaluate whether DC-SIGN interacts with the leprosy bacillus, Mycobacterium leprae, and whether DC-SIGN genetic variation influences the susceptibility and/or pathogenesis of the disease. A case-control study conducted in a cohort of 272 individuals revealed no association between DC-SIGN variation and leprosy. However, our results clearly show that DC-SIGN recognizes M. leprae, indicating that mycobacteria recognition by this lectin is not as narrowly restricted to the Mycobacterium tuberculosis complex as previously thought. Altogether, our results provide further elucidation of M. leprae interactions with the host innate immune cells and emphasize the importance of DC-SIGN in the early interactions between the human host and the infectious agents.

Imunologia

Makino M, Maeda Y, Mukai T, Kaufmann SH. Impaired maturation and function of dendritic cells by mycobacteria through IL-1beta. Eur J Immunol 2006 Jun; 36(6):1443-52.

Dendritic cells (DC) are pivotal for initiation and regulation of innate and adaptive immune responses evoked by vaccination and natural infection. After infection, mycobacterial pathogens first encounter monocytes, which produce pro-inflammatory cytokines, including IL-1beta, TNF-alpha and IL-6. The role of these cytokines in DC maturation remains incompletely understood. Here, we show that maturation of DC from monocytes was impaired by pretreatment of monocytes with low doses of IL-1beta. Under these conditions, Mycobacterium leprae-infected DC failed to stimulate antigen-specific T cell responses. Expression of CD86 and CD83 and production of IL-12 in response to lipopolysaccharide and peptidoglycan were diminished. In contrast, these DC functions were not impaired by pretreatment with TNF-alpha, IL-6 or IL-10. When monocytes were infected with M. bovis Bacillus Calmette-Guérin, and subsequently differentiated to DC, the activity of these DC was suppressed as well. Thus, IL-1beta acts at early stages of differentiation of DC and impairs biological functions of DC at later stages. Therefore, production of IL-1beta by mycobacteria-infected antigen-presenting cells counteracts effective stimulation of innate and adaptive immune responses.

Imunologia

Reece ST, Ireton G, Mohamath R, Guderian J, Goto W, Gelber R. ML0405 and ML2331 are antigens of Mycobacterium leprae with potential for diagnosis of leprosy. Clin Vaccine Immunol 2006 Mar; 13(3):333-40.

Despite the success of multidrug therapy in reducing the number of registered leprosy cases worldwide, evidence suggests that Mycobacterium leprae continues to be transmitted. A serological diagnostic test capable of identifying and allowing treatment of early-stage disease could reduce transmission and prevent the onset of the disability, a common complication of the disease in later stages. Serological diagnosis based on antibody recognition of phenolic glycolipid I (PGL-I) cannot reliably identify individuals with lower bacterial indices (BI). One strategy that might improve this situation is the provision of highly specific serological antigens that may be combined with PGL-I to improve the sensitivity of diagnosis. Using serological expression cloning with a serum pool of untreated lepromatous leprosy (LL) patients, we identified 14 strongly reactive M. leprae proteins, 5 of which were previously unstudied. We present results suggesting that two of these proteins, ML0405 and ML2331, demonstrate the ability to specifically identify LL/borderline lepromatous (BL) patients on the basis of immunoglobulin G (IgG) reactivity. In a household contact study, LL index cases were identified on the basis of this reactivity, while household contacts of these patients demonstrated undetectable reactivity. At a serum dilution of 1:800, suitable to reduce background PGL-I IgM reactivity, two BL patients with a BI of <4 showed anti-human polyvalent immunoglobulin G, A, and M reactivity measured with a combination of ML0405, ML2331, and natural disaccharide O-linked human serum albumin (NDOHSA) (synthetic PGL-I) that was markedly higher than IgM reactivity to NDOHSA alone. We suggest that ML0405 and ML2331 may have utility in serological leprosy diagnosis.

Imunologia e Biologia Molecular

Aráoz R, Honoré N, Cho S, Kim JP, Cho SN, Monot M, Demangel C, Brennan PJ, Cole ST. Antigen discovery: a postgenomic approach to leprosy diagnosis. Infect Immun 2006 Jan; 74(1):175-82.

Leprosy is an infectious, neurodegenerative disease of humans caused by Mycobacterium leprae. Despite effective control programs, the incidence of leprosy remains stubbornly high, suggesting that transmission may be more common than expected. The rationale of this work was to use bioinformatics and comparative genomics to identify potentially antigenic proteins for diagnostic purposes. This approach defined three classes of proteins: those restricted to M. leprae (class I), those present in M. leprae with orthologues in other organisms besides mycobacteria (class II), and exported or surface-exposed proteins (class III). Twelve genes (two class I, four class II, and six class III proteins) were cloned in Escherichia coli, and their protein products were purified. Six of these proteins were detected in cell extracts of M. leprae by immunoblotting. The immunogenicity of each recombinant protein was then investigated in leprosy patients by measuring the reactivity of circulating antibody and gamma interferon (IFN-gamma) responses in T-cell restimulation assays. Several class II and class III proteins were recognized by circulating antibodies. Importantly, most class II proteins elicited IFN-gamma responses that were significantly stronger than those produced by previously identified antigens. Among them, two class II proteins, ML0308 and ML2498, showed marked humoral and cellular immunogenicity, therefore providing promising candidates for the diagnosis of both tuberculoid and lepromatous forms of leprosy.

Imunologia e Biologia Molecular

Soilleux EJ, Sarno EM, Hernandez MO, Moseley E, Horsley J, Lopes UG, Goddard MJ, Vowler SL, Coleman N, Shattock RJ, Sampaio EP. DC-SIGN association with the Th2 environment of lepromatous lesions: cause or effect? J Pathol 2006 Jun; 209(2):182-9.

The clinical spectrum of leprosy is related to patients' immune responses. Non-responsiveness towards Mycobacterium leprae (ML) seems to correlate with a Th2 cytokine profile. The reason for such a polarized immune response remains unclear. The C-type lectin, DC-SIGN, expressed by subsets of dendritic cells (DCs) and macrophages, has previously been associated with Th2 responses. Here we show abundant DC-SIGN expression in lepromatous but not borderline tuberculoid leprosy, in both HIV-positive and HIV-negative patients. Moreover, we demonstrate that DC-SIGN can act as an entry receptor for ML, as it does for M. tuberculosis, through the cell wall component lipoarabinomannan. DC-SIGN is expressed on virtually all ML-containing cells, providing further evidence for its role as a receptor. DC-SIGN may therefore be induced on macrophages in lepromatous leprosy and may then contribute to mycobacterial entry into these cells.

Imunologia e Genética

Alves C, Vieira N, Meyer I, Alves COT, Maria BP; Oliveira MFSP. Antígenos de histocompatibilidade humanos e dermatologia: da pesquisa para a prática clínica / Human histocompatibility antigens and Dermatology: from research to clinical practice. An bras dermatol. 2006 Jan-Fev; 81(1):65-73.

A participação do sistema de histocompatibilidade humano (HLA: human leukocyte antigens) na patogênese das doenças auto-imunes é bem conhecida. Situado no braço curto do cromossomo 6, o sistema HLA se destaca por seu polimorfismo e por sua capacidade de conferir susceptibilidade ou proteção a diferentes enfermidades. Em Dermatologia, esse sistema desempenha papel importante na patogenia e história natural de várias doenças. A força e o tipo de associação variam com a dermatose e, algumas vezes, com o grupo étnico-racial estudado. O surgimento de métodos moleculares para tipificação dos alelos HLA e as recentes atualizações de sua nomenclatura têm contribuído para o melhor entendimento desse sistema. Infelizmente, essas informações não têm sido veiculadas de maneira adequada na literatura clínica, o que dificulta o entendimento da associação do HLA com as doenças cutâneas. Nesta revisão, são discutidos alguns aspectos do sistema HLA, métodos de detecção, nomenclatura e sua associação com vitiligo, pênfigo, psoríase, lúpus eritematoso, escabiose, leishmaniose cutânea, hanseníase, paracoccidioidomicose e dermatite atópica. (AU).

Imunologia e Genética

Geluk A, Ottenhoff TH. HLA and leprosy in the pre and postgenomic eras. Hum Immunol 2006 Apr; 67(6):439-45.

Leprosy has intrigued immunologists for many decades. Despite minimal genetic variation between Mycobacterium leprae isolates worldwide, two completely different forms of the disease can develop in the susceptible human host: localized, tuberculoid, or paucibacillary leprosy, which can heal spontaneously, and disseminating, lepromatous, or multibacillary leprosy, which is progressive if untreated. The questions which host factors regulate these very different outcomes of infection, by what mechanisms, and whether these can be used to combat disease remain unanswered. Leprosy has been one of the very first human diseases in which human leukocyte antigen (HLA) genes were demonstrated to codetermine disease outcome. Jon van Rood was among the earliest researchers to recognize the potential of this ancient disease as a human model to dissect the role of HLA in disease. Decades later, it is now clear that HLA molecules display highly allele-specific peptide binding capacity. This restricts antigen presentation to M. leprae-reactive T cells and controls the magnitude of the ensuing immune response. Furthermore, specific peptide/HLA class II complexes can also determine the quality of the immune response by selectively activating regulatory (suppressor) T cells. All these factors are believed to contribute to leprosy disease susceptibility. Despite the global reduction in leprosy disease prevalence, new case detection rates remain invariably high, demonstrating that treatment alone does not block transmission of leprosy. Better tools for early detection of preclinical M. leprae infection, likely the major source of unidentified transmission, therefore is a priority. Newly developed HLA-based bioinformatic tools now provide novel opportunities to help combat this disease. Here, we describe recent work using HLA-DR peptide binding algorithms in combination with recently elucidated genome sequences of several different mycobacteria. Using this postgenomic HLA-based approach, we were able to identify 12 candidate genes that were unique to M. leprae and were predicted to contain T cell epitopes restricted via several major HLA-DR alleles. Five of these antigens (ML0576, ML1989, ML1990, ML2283, ML2567) were indeed able to induce significant T cell responses in paucibacillary leprosy patients and M. leprae-exposed healthy controls but not in most multibacillary leprosy patients, tuberculosis patients, or endemic controls. 71% of M. leprae-exposed healthy controls that did not have antibodies to the M. leprae-specific phenolic glycolipid-I responded to one or more M. leprae antigen(s), highlighting the potential added value of these unique M. leprae proteins in diagnosing early infection. Thus current state-of-the-art HLA immunogenetics can provide new tools for specific diagnosis of M. leprae infection, which can impact our understanding of leprosy transmission and can lead to improved intervention.

Imunoprofilaxia

Setia MS, Steinmaus C, Ho CS, Rutherford GW. The role of BCG in prevention of leprosy: a meta-analysis. Lancet Infect Dis 2006 Mar; 6(3):162-70.

The present meta-analysis investigates the role of BCG-a widely used yet controversial vaccine-in the prevention of leprosy. The electronic databases Medline, Embase, the Cochrane Library, and LILACS were searched to identify studies assessing the protective effect of BCG against leprosy. We included seven experimental studies and 19 observational studies. The experimental studies demonstrated an overall protective effect of 26% (95% CI 14-37%). At 61% (95% CI 51-70%), the observational studies overestimated the protective effect. The age at vaccination did not predict the protective effect of BCG. An additional dose of BCG was more protective in the prevention of leprosy compared with a single dose. An additional dose of BCG may be warranted for contacts of leprosy patients in areas where leprosy continues to be a public-health problem.

Infecção Experimental

Levy L, Ji B. The mouse foot-pad technique for cultivation of Mycobacterium leprae. Lepr Rev 2006 Mar; 77(1):5-24.

Although multiplication of Mycobacterium leprae in the foot pads of immune-competent mice is limited, and no leprosy-like lesions are produced in these animals, the mouse foot-pad system represents the first truly useful and reproducible animal model of M. leprae infection. Its employment has enabled research into basic questions with respect to the microbiology of M. leprae, and the epidemiology, treatment and control of leprosy. The mouse foot-pad technique is labour-intensive and time-consuming, and is expensive in terms of the costs of animal purchase and maintenance. In addition, the technique appears to be rather imprecise and insensitive, compared with the techniques employed in working with cultivable micro-organisms. For these reasons, and also as a by-product of the success of multi-drug therapy, the technique has been abandoned in many research centres. Nevertheless, until a more simple and sensitive technique for demonstrating the viability of M. leprae is developed, the mouse foot-pad system remains an essential tool for leprosy research. In this review, we discuss the mouse foot-pad technique in detail, analyse its precision, point out its shortcomings, describe its most important applications, and prescribe a method by which to assess the ability of an alternative technique to serve in place of this established technique.

Neuropsiquiatria

Silva JG, Knackfuss IG, Portella CE, Bastos VH V, Machado DCD, Basile L, Piedade R, Ribeiro P. Coerência espectral do eletrencefalograma em pacientes submetidos a transposição tendinosa: estudo pré e pós-operatório / EEG spectral coherence at patients submitted to tendon transfer surgery: study pre and post surgery. Arq neuropsiquiatr 2006 Jun; 64(2b):473-7.

A transferência tendinosa do músculo tibial posterior é intervenção cirúrgica bastante utilizada na ortopedia para correção do pé caído por seqüela de hanseníase. Poucos modelos propuseram investigações mais significativas sobre os fenômenos plásticos cerebrais nas transferências tendinosas. O presente estudo teve como objetivo analisar a coerência espectral (CE) na Eletroencefalografia (EEG) em pacientes submetidos a transferência do tendão do tibial posterior pela técnica de Srinivasan através da EEG quantitativa (EEGq). A amostra foi composta de quatro sujeitos com pé caído devido a seqüela de hanseníase. Os parâmetros de CE do EEG foram quantificados no momento pré e pós-operatório. Os resultados mostraram que houve efeito principal para o fator momento, significativo, no par de eletrodos C3-CZ, com aumento da coerência. Entretanto, os achados da ANOVA não revelaram interação significativa entre bandas versus momento. A recuperação funcional promovida por tal cirurgia parece gerar alterações corticais. (AU).

Oftalmologia

Daniel E, Ffytche TJ, Sundar Rao PS, Kempen JH, Diener-West M, Courtright P. Incidence of ocular morbidity among multibacillary leprosy patients during a 2 year course of multidrug therapy. Comment In:Br J Ophthalmol.Br J Ophthalmol 2006 May; 90(5):568-73.

AIM: To evaluate the incidence of and risk factors for ocular complications in multibacillary (MB) leprosy patients during their 2 year, fixed duration, multidrug therapy (MDT). METHODS: Periodic eye examinations were conducted prospectively on a cohort of 301 consecutive newly diagnosed MB patients every 6 months during their 2 year course of MDT. Incidence of ocular pathology was calculated as the number of events per person year of event free follow up of patients who did not have the specific finding at baseline. RESULTS: 292 (97%) patients had one or more follow up visits. The incidence of lagophthalmos was 1.2%/patient year (95% CI 0.5% to 2.8%); corneal opacity was 7.4%/patient year (95% CI 5.1% to 10.6%); uveal involvement was 5.1%/patient year (95% CI 3.3% to 7.8%), and cataract that reduced vision to 6/18 or less was seen in 4.3%/patient year (95% CI 2.7% to 6.9%) of patients. Overall, 23 individuals (5.8%/patient year, 95% CI 3.9 to 8.8) developed leprosy related potentially blinding pathology during the 2 years of MDT. CONCLUSIONS: Approximately 20% of patients with MB leprosy can be expected to develop ocular complications of leprosy during a 2 year course of MDT, many (11%) of which are potentially vision threatening. Ophthalmological monitoring to detect and treat ocular complications at defined intervals during MDT is indicated.

Oftalmologia

Daniel E, Ffytche TJ, Kempen JH, Rao PS, Diener-West M, Courtright P. Incidence of ocular complications in patients with multibacillary leprosy after completion of a 2 year course of multidrug therapy. Br J Ophthalmol 2006 May; 90(8):949-54.

AIM: To evaluate the incidence of and risk factors for ocular complications in multibacillary (MB) leprosy patients following completion of 2 year, fixed duration, multidrug therapy (MDT). METHODS: Biannual eye examinations were conducted prospectively on a cohort of MB patients who had completed MDT and followed up for 5 years. The incidence of ocular pathology was calculated as the number of events per person year of event free follow up of patients who did not have the specific finding before completion of MDT. RESULTS: 278 patients had one or more follow up visits after completion of MDT. The incidence of lagophthalmos was 0.24%/patient year (95% CI 0.10% to 0.37%); corneal opacity, 5.35%/patient year (95% CI 4.27% to 6.70%); uveal involvement, 3.78%/patient year (95% CI 2.96% to 4.83%); and cataract that reduced vision to 6/18 or less, 2.4%/patient year (95% CI 1.77% to 3.26%). Overall, 5.65%/patient year (95% CI 4.51% to 7.09%) developed leprosy related ocular disease and 3.86%/patient year (95% CI 3.00% to 4.95%) developed leprosy related, potentially blinding ocular pathology during the period following MDT. Age and other disability also predicted incident eye disease. CONCLUSIONS: Every year, approximately 5.6% of patients with MB who have completed MDT can be expected to develop new ocular complications of leprosy, which often (3.9%) are potentially vision threatening. Because many of these complications cannot be detected without slit lamp examination, periodic monitoring, particularly of older patients and those with other disability, is recommended, in order to detect and treat ocular complications satisfactorily.

Oftalmologia

Dias RJN, Maakaroun MJ, Castro A V de. Facoemulsificação e utilização de lentes intra-oculares em portadores de hanseníase: estudo caso-controle / Phacoemulsification with intraocular lens implantation in leprosy patients: case control study. Arq bras oftalmol 2006 Maio-Jun; 69(3):345-8.

OBJETIVO: Verificar as principais alterações e complicações relacionadas à cirurgia de catarata com o implante de lente intra-ocular em portadores de hanseníase, utilizando-se a técnica da facoemulsificação e, comparar estes resultados com um grupo de pacientes sem a doença. MÉTODOS: O método utilizado foi o estudo caso-controle, no qual foram incluídos 31 olhos de hansenianos operados no período de junho de 1999 a janeiro de 2003, denominados de Grupo Caso. Paralelamente foram selecionados outros 31 olhos de pacientes não hansenianos denominados de Grupo Controle. As comparações entre os Grupos foram realizadas pelo teste exato de Fisher. Foi utilizado programa de processamento estatístico EPI INFO versão 6.04. RESULTADOS: Na análise das complicações pós-operatórias, apenas a rotura de esfíncter evidenciou relação com a hanseníase, com um p=0,024. A distribuição da freqüência das demais alterações não mostrou significância estatística (p>0,05). A melhora na acuidade visual foi semelhante nos dois grupos. CONCLUSÃO: O estudo comprovou que, quanto à acuidade visual no pós-operatório e as complicações, os pacientes hansenianos assemelham-se à população em geral, quando utilizada a técnica da facoemulsificação com introdução de lente intra-ocular. (AU

Oftalmologia/Clínica

Mpyet C, Hogeweg M. Lid surgery in patients affected with leprosy in North-Eastern Nigeria: are their needs being met? Trop Doct 2006 Jan; 36(1):11-3.

Corneal blindness is second only to cataract as a cause of blindness in leprosy patients. Eyelid surgery provided by trained paramedical staff can often prevent blindness in these patients. We sought to determine the extent to which paramedic personnel are meeting the eyelid surgical needs of these patients and to investigate the barriers that may be preventing them from seeking surgery. A total of eight leprosy settlements in north-eastern Nigeria were selected for this study. In these villages, 480 residents who were 30 years of age or older who had been diagnosed as having leprosy had their eyes examined for the presence of lagophthalmos, entropion/trichiasis and evidence of surgery for either of these conditions. Patients who had not been operated on for either of these conditions were questioned to determine their reasons for not seeking surgery. One hundred and sixteen (12.1 %) eyes were in need of surgery while 5.1 % of eyes had been operated upon. The surgical coverage for eyelid surgery was 30%; lagophthalmos had a better surgical coverage of 44.4% compared to entropion/trichiasis, which had 24.7% coverage. Lack of awareness about the treatment available was the most common reason given for not seeking surgery. This study shows that despite the presence of trained paramedical staff in the community, the eyelid surgical needs of these patients are not being met primarily because the level of awareness about the availability of effective treatment still remains low. In addition, the readiness of eye-care staff to visit these settlements was disappointing. Extra efforts will have to be made.

Oftalmologia/Clínica

Waziri-Erameh MJ, Omoti AE. Ocular leprosy in Nigeria: a survey of an Eku leprosorium.
Trop Doct 2006 Jan; 36(1):27-8.

To determine the ocular morbidity, visual disability and potential for blindness in leprosy patients recently released from treatment. In-patients from Eku leprosy settlement were interviewed and examined for ocular disease from leprosy and other causes. They were examined using the Snellen's chart, pentorch, Kowa portable slit-lamp, direct ophthalmoscope and the pulsair non-contact tonometer. The patients were also refracted. In all, 60 inpatients who were recently released from treatment, comprising 39 men (65%) and 21 women (35%), were examined. Fifty-eight patients (96.67%) had ocular symptoms, the most common being blurred vision in 23 patients (38.33%). Nine patients (15%) were blind. Cataract was the most common cause of blindness occurring in three of the nine patients (33.33%). The most common types of ocular lesions were madarosis (31.67%), lagophthalmos (16.67%) and cataract (16.67%). Potentially blinding conditions due to leprosy were seen in 42 patients (70%). The incidence of ocular involvement, blindness and potentially blinding conditions are high in leprosy patients recently released from treatment. Regular ophthalmic evaluation and integration into Vision 2020 programmes are recommended.

Ortopedia

Schwarz RJ, Macdonald MR, van der Pas M. Results of arthrodesis in neuropathic feet.
J Bone Joint Surg Br 2006 Jun; 88(6):747-50.

We describe the results of arthrodesis for the treatment of recurrent acute neuropathic bone disease in 24 feet and of chronic disease with deformity in 91 feet, undertaken between January 1984 and December 2003. All were due to leprosy. Correction of the deformity was achieved in 80 of 106 feet (76%) and fusion in 97 of 110 feet (88%). In the 24 feet in which recurrent neuropathic bone disease was the reason for surgery, 17 (71%) obtained stability while in seven (29%) symptoms recurred postoperatively. Complications were experienced following 58 of the 110 operations (53%). In patients presenting primarily with deformity with a minimum follow-up of two years (79 feet), there was a reduced frequency of ulceration in 40 (51%). Normal footwear could be worn by 32 patients (40%) after surgery, while 40 (51%) required a moulded insole. Arthrodesis of the ankle in the neuropathic foot due to leprosy has a good overall rate of success although the rate of complications is high.

Tratamento

Naafs B. Treatment of leprosy: science or politics? Trop Med Int Health 2006 Mar; 11(3):268-78.

OBJECTIVE: To review the history of the treatment of leprosy and leprosy reactions after World War II. METHODS: Treatments based on experience and clinical evidence are compared with those advised by the WHO in their quest to eliminate leprosy by the year 2000, later extended to 2005. RESULTS: Leprosy is not eliminated. Analyses of data on reaction treatment suggest that the treatment regimens for leprosy reactions as advised by the WHO may lead to more impairment among leprosy patients than the 'old' established regimes. CONCLUSION: WHO policies to eliminate leprosy may have jeopardized the proper treatment of leprosy for years to come.

Tratamento Experimental

Ji B, Chauffour A, Andries K, Jarlier V. Bactericidal activities of R207910 and other newer antimicrobial agents against Mycobacterium leprae in mice. Antimicrob Agents Chemother 2006 Apr; 50(4):1558-60.

As measured by a proportional bactericidal technique in the mouse footpad system, the bactericidal activity against Mycobacterium leprae of R207910 was equal to that of rifapentine, rifampin, or moxifloxacin and significantly greater than those of minocycline, PA-824, and linezolid. These data suggest that R207910 may play an important role in treatment of leprosy.

Tratamento Experimental

Makarov V, Riabova OB, Yuschenko A, Urlyapova N, Daudova A, Zipfel PF, Möllmann U. Synthesis and antileprosy activity of some dialkyldithiocarbamates. J Antimicrob Chemother 2006 Jun; 57(6):1134-8.

OBJECTIVES: To investigate the antileprosy potential of a set of original compounds with antimycobacterial activity. METHODS: We developed a facile synthesis of 2-chloro-3-cyano-5-nitropyridine and synthesized a series of 3-cyano-2-dialkyldithiocarbamoyl-5-nitropyridine derivatives. In vivo therapeutic efficacy against Mycobacterium leprae was assessed in the infected mouse footpad model. RESULTS: The compounds were active in vitro against Mycobacterium smegmatis, Mycobacterium aurum, Mycobacterium vaccae and Mycobacterium fortuitum, with MICs generally in the range of 0.4-6.25 mg/L. Reduction of the bacterial load in vivo in the mouse footpad and toxic side effects were dependent on the individual structure of the compounds and on the doses applied. Compounds 2a, 3a and 3b reduced the number of M. leprae by two orders of magnitude, comparable to the effect of dapsone. Co-administration of compounds 2a and 3a with dapsone synergistically enhanced the activity. In addition, these compounds were well tolerated over the treatment period of 7.5 months. CONCLUSIONS: Individual synthetic dithiocarbamate derivatives have promising antileprosy activity.