Poster Presentations
Clinical Aspects

P-1

Role of Protein in Leprosy

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The paper presents the role of protein in leprosy based on the survey conducted in four districts of Madhya Pradesh (Barwani, Jhabua, Khargone and Khandwa). During the survey and case validation, a total sample of 350 leprosy cases have been studied. The study has closely observed and studied the intake of proteins by the sample group. The main findings of the study have revealed that 90 percent of the total sample were from the low socio economic group, 8 percent of the sample were from middle class and the remaining 2 percent were from high socio economic group. An analysis of the above findings clearly indicates that leprosy occurs mostly in low socio economic group of community where there is very less protein diet is taken. On the other hand, people of high socio economic group and Muslim community have reported to have less number of leprosy cases with only 1 percent each. This in turn reveals that the intake of protein is good in high socio economic group and Muslim community.

P-2

Clinical and Histopathological Comparison of Monthly ROM Therapy with Standard WHP MDT PB and MB in 1-3 Leprosy Lesions

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The operational convenience and drug compliance with ROM therapy, a one dose regimen, offers the attractive alternative in treating leprosy patients. Aim: To evaluate the efficacy of monthly ROM in patients with 1-3 leprosy lesions. Materials and Methods: 66 patients with 1-3 lesions were included in the study. Patients were divided into three groups. One group received monthly ROM for six months. The other two groups received WHO standard PB and MB regimen for six months. At the end of six months the patients were evaluated both clinically and histologically. Well defined parameters were used to measure clinical and histological resolution. With single lesion 10 out of 14 patients showed marked improvement. In patients with two lesions grade II resolution was seen in 8 out of 10 patients and four patients received ROM therapy. Among 16 patients with three lesions 4 patients with ROM therapy showed marked improvement. Overall assessment showed that out of 22 patients 18 patients showed clinical improvement and 100% showed histological improvement at the end of six pulses. Conclusion: Monthly ROM therapy is ideal for single leprosy lesion, as effective as WHO MDT-PB or MB in patients with two or three lesions.

P-3

Low Prevalence of Relapse After MDT

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Response to multidrug therapy (MDT) is usually efficient for leprosy treatment and avoids Mycobacterium leprae resistance. However, some cases have recurrent lesions following release from MDT. A longitudinal study of leprosy patients, initially diagnosed between 1987 and 1997 at the Leprosy Clinic, FIOCRUZ, Rio de Janeiro, was performed in order to evaluate the incidence of relapse until 2006. Relapse was defined for patients that had completed a course of WHO-MDT or ROM, and further developed new skin or nerve lesions and/or had reactivation of old lesions, after a symptom-free period. Out of the 1203 patients, 598 (49.7%) were treated with 24 doses of MB regimen, 589 (49.0%) with 6 doses of PB regimen, and 16 (1.4%) with ROM. After an average of 7.5 years (3-14 years) of follow-up, 16 patients had relapse, resulting in a rate of 1.3. The relapse rate remained about the same, 1.15, when only the high BI patients (BI > 2) are considered. However, if the PB patients treated with ROM were excluded, the relapse rate is reduced to 0.76 (9/1187 patients). Thus, MDT has proven effective in our group of patients, in contrast to ROM which seems insufficient. Key words: MDT, ROM, relapse, treatment.
Effect of Corticosteroid Usage on the Bacterial Killing, Clearance and Nerve Damage in Leprosy; A Prospective Cohort Study. Part 1) Baseline Observations in 400 New MB Cases

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Objective & methods: To investigate adverse effect/s if any of the therapeutic usage of corticosteroids (Prednisolone 40 mg tapered to 5 mg over 12 weeks given to treat reaction/neuritis) on killing and clearance of bacteria, granuloma clearance and the resultant nerve damage. We describe here the baseline clinical, histological, bacteriological & nerve function assessment findings of 400 untreated MB cases, with special emphasis on differences between cases presenting with and without reactions/neuritis. Results: At baseline, using Ridley Jopling classification, 39% of cases conferred to BT, 20% BB, 36% BL-LLs and 5% were pure neural cases. Overall 60% of cases were slit skin smear negative. 33% of them presented with deformity, either grade 1 or 2 of which, majority (82%) had DG2. Ulnar claw was the most common deformity. By MNP, 85% of cases showed one or more thickened nerves. Assessment with MF and VMT combined tests showed abnormal nerve functions in 49%, while SNCV/MNVC were abnormal in 92% of cases. Sural and ulnar (motor) nerves were most frequently and severely affected. Overall 140/ 400 (35%) cases presented with reaction of either type, of which majority 107/140 (76%) had T1R with/ without neuritis, T2R with/without neuritis was seen in 8 (6%), while only neuritis in 25 (18%) cases. On comparing cases presenting with (Gr.A) and without (Gr.B) reaction/ neuritis, the incidence of DG2 was significantly higher in Gr.A (39%) as compared to Gr.B (20%). By clinical tests, % of cases as well as nerves showing abnormal nerve function was significantly higher in Gr.A. On the other hand in the more sensitive NCV test, number of cases showing abnormal SNCV/MNVC parameters were closely comparable in 2 groups i.e. 94% & 91% in Gr.A and B respectively but in terms of number of nerves it was higher in Gr. A. Conclusion: At baseline neuropathy / involvement of peripheral nerve trunk/s was detected in almost all the MB cases regardless of reaction, the difference being the more severe and extensive nature of nerve damage presented by cases with reaction/neuritis. Key words: Leprosy, baseline data, corticosteroids, nerve damage, reaction.

Relapse in MB Leprosy After One-Year WHO-MDT

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This study aimed to determine the frequency, time interval to relapse and the possible risk factors for relapse in MB leprosy after one year WHO-MDT. MB leprosy patients treated with one year WHO-MDT were recruited and monitored for signs of relapse. Criteria for relapse include the appearance of new/active lesions and an increase in BI of at least 2+ at any site. The majority of the 300 patients recruited were of the more severe type of leprosy with an initial average BI of 4+ and above. Patient follow-up ranges from 1-7 years after MDT. Average follow-up was 3.5 years for a total of 1,059 patient-years. So far, only one patient relapsed 7 years after treatment. This patient had a high pretreatment BI but attained a few years of smear negativity before relapse. This particular case of late recurrence suggests the possibility of relapse due to persisting organisms. Also, this finding seems to support earlier reports that a high initial BI remains as an important risk factor for relapse. However, smear negativity after treatment does not necessarily protect a patient from eventual relapse.

The Possibilities of Usage of Horseradish Root Containing Peroxidase and Galoids in Leprosy Therapy

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The aim: is on the basis of experimental leprosy (by Shepard) to activate antimicrobial action of myeloperoxidase (MP) system phagocytes by introduction to mice the horseradish root (HR) having peroxidase in complex with galoid (iodine, bromine). Methods: mice of CBA line, infected by M. leprae. Various doses of KJ and KBr were tested. After infection mice were given food having effective antibacterial dose (300 mg/kg food) melted HR with active peroxidase 100 E/g. and KJ and KBr daily. Results: the treatment by HR in combination with KJ and KBr in doses 0.2-0.4 and 0.1-0.2 mg/kg of animal mass leads to decreasing of M. leprae in mice foot pads in comparison with control group (mice without treatment), and increase of antimicrobial effect and growth of activity of MP in blood neutrophiles of mice in comparison with DDS treatment. Conclusion: the method of complex therapy of leprosy patients may be worked out on the basis of this investigation. Key words: experimental leprosy, treatment.
**Effect of MDT on the Oxidative Status of The Body**

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**Introduction:** The three drugs comprising MDT have differing natures at cellular level- clofazimine is pro-oxidative while dapsone and rifampicin are anti-oxidant. This study was designed to determine the cytological effects of these three drugs when used together as standard MDT. **Methods:** Two groups- MB and PB were created and 30 patients completed the study in each group. The level of oxidative stress in the patients’ serum was determined by three tests—FRAP (ferric reducing antioxidant patients) a measure of total plasma antioxidant potential, glutathione levels (a normal plasma antioxidant) and malondialdehyde – a marker of cell damage due to oxidative stress. These tests were performed before starting and after three months of MDT. **Results:** The levels of oxidative stress were significantly higher in MB as compared to PB before initiating MDT. After three months of therapy, there was a significant reduction in malondialdehyde levels and the levels of FRAP & glutathione were found to improve. **Conclusions:** Despite the difference in the individual nature of these three drugs, when combined as MDT they play an antioxidant role and help in the reduction of free radical damage at cellular levels. **Key words:** oxidative stress in leprosy, effect of MDT on oxidative stress, oxidative stress and leprosy.

**Safety of Anti-Leprosy Treatment [ALT] During Pregnancy: An Observation at an Outpatient Facility in Barabanki Uttar Pradesh**

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**Introduction:** MDT is given to all those self-reporters diagnosed with leprosy, 40% of them are women. **Methods:** Women registered for MDT were screened for pregnancy by counselor and nurse. Those that are found pregnant were given an antenatal check-up and counseled. They were followed up regularly during and after MDT. Data collected from patient charts, counselor’s record and prenatal check up forms, compiled analyzed and reported. **Results:** Among 500 average annual self reporters diagnosed with HD requiring ALT [MDT], 40% of them are women come from rural areas. About 10% of these were found pregnant during MDT. They belong to 19 -30 age group, primary education one high school and another university graduate. They live in joint family households. Their pregnancies were detected from gestational ages 3 – 7 months. All of them delivered healthy babies during or after MDT. All of the married women live with their husbands in a joint family. They overcome with fear of disease, added with pregnancy it becomes fear and worry. Many have fear of hurt, rejection of self and baby. All of them needed assurance and support, especially that of a female. **Conclusion:** This study shows and reinforces that it is absolutely safe to give MDT during pregnancy. Counselor’s and Nurses’ supportive role plays a significant role in removing fears, anxieties and worries for pregnant women patients. **Key words:** safety in pregnancy, MDT.

**Can MDT Reverse the Neutrophilic Anergy to M. leprae?**

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**Introduction:** In this era of elimination of leprosy, the reasons for relapse have gained significance. One such mechanism of persistence of *M. leprae* in the body is the anergy of neutrophils to the bacterium. The failure to become sufficiently activated or the complete unresponsiveness of macrophages to activation signals of *M. leprae* could allow the bacteria to escape destruction and increase the chances of a relapse. Since all three drugs used in MDT have some effect on neutrophil activation, this selective anergy might be reversed to further the eradication of the bacterium. **Methods:** Neutrophil function was determined in MB and PB patients by the production of superoxide ions and the nitroblue tetrazolium reduction test. This was performed prior to the start of MDT and after three months of therapy. **Results:** The levels of these markers were significantly lower in MB as compared to PB. After three months, neutrophils showed significantly increased levels of activation in both groups. This rise was greater in MB patients as compared to PB. **Conclusions:** MDT can improve neutrophil function and reduce the chances of a relapse in leprosy. **Key words:** neutrophil function in leprosy, MDT and neutrophil function.
Are Leukotriene Inhibitors Effective Second Line Anti-Reactional Drugs

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Type 2 reaction in leprosy causes disability and suffering in at least 10% individuals with multibacillary leprosy. Prednisolone is effective and safe for controlling reaction in the majority of cases, but a minority need alternative or supplementary drugs. Leukotriene inhibitors have been used “off label” in a small series of cases with good effect. With patients’ verbal informed consent, we gave zafirlukast or montelukast to selected patients suffering type 2 reaction who had contra-indications to prednisolone or adverse effects of steroid, when standard second line drugs were inappropriate or unavailable. Outcomes were recorded subjectively: patients self-reported well-being, dose of prednisolone needed to maintain control of reaction, and reduction in admissions. Amongst ten patients treated with Zafirlukast or Montelukast at DBLM hospital over 2 years, eight experienced definite benefit without adverse effects and only one suffered mild adverse effects. A small scale formal trial comparing leukotriene inhibitors with standard steroid treatment for type 2 reaction is now underway. Key words: ENL, Type two reaction, steroid, second line drug, leukotriene inhibitors.

Need of New Immunosuppressive Agents for the Treatment of Leprosy Reactions

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Understanding the pathogenesis of reactions has helped in the selection of drugs for treatment, such as thalidomide, the primary treatment for erythema nodosum/multiform. However, due to its teratogenic effects thalidomide cannot be used in fertile women. In addition, leprosy reactions frequently recur or are resistant to treatment. In order to evaluate the effective use of thalidomide for treatment of leprosy reaction, the files of 145 patients exclusively treated with thalidomide at the Leprosy Outpatient Clinic, Oswaldo Cruz Institute since 1990 until 2006 were evaluated. Only 43 patients had standard thalidomide treatment for up to 3 months and 59% of the patients had more than one episode. Out of the total of 245 episodes evaluated, 70% required more than 3 months treatment. Mean duration was 7 months, but in some patients reaction lasted more than 30 months. Severe episodes were found to be a risk for having prolonged and/or recurrent reactions (RR=1.23; CI= 1.02-1.48). The long duration of treatment observed indicates the development of refractoriness to thalidomide in a large group of patients. Thus, there is need to explore new immunosuppressive agents for treatment of recurrent or resistant leprosy reactions.

Study of ENL Pattern in Leprosy

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Introduction: BOLEP is a LEPRO Society project started in 1991 for leprosy services and covers the entire Subarnapur district with a present population of 5,78,932. Till the integration in 2001, it has taken regular activities like implementation of MDT and complication management in leprosy. All the cases were subjected for skin smear examination and the results were graded in the Ridley scale. Methodology: It is a record based study from the data of 1991 to 2001. During the period a total 22,075 leprosy cases were detected of which 6270 (28.4%) were MB type. Among these MB cases, 1990 (31.7%) were smear positive. Among these positives, 129 (6.4%) suffered from ENL. The data of these 129 cases was analysed. Results: Among the 129 ENL cases 98 (76%) are I.L and 31 (24%) are BI. In these 129 ENL was seen in 11.6% at registration, 82.2% during treatment, and 6.2% after MDT completion. It is Mild in 17.8%, Moderate in 47.2% and severe in 34.8% of cases. The number of episodes of ENL seems to be more in cases with high positivity. Only 34% of the ENL cases are females. Conclusions: ENL is more commonly seen patients during treatment. Higher frequency of ENL is observed in high positivity cases. Key words: BI, ENL, RJ classification.
Are Leukotriene Inhibitors Effective Second Line Anti-Reactional Drugs

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Type I Lepra Reaction Presenting as Immune Reconstitution Inflammatory Syndrome

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Immune reconstitution inflammatory syndrome (IRIS) is defined as occurrence or worsening of clinical and/or laboratory parameters despite a favorable outcome in human immunodeficiency virus (HIV) surrogate markers (CD4 counts) and plasma viral load. IRIS is an inflammatory reaction occurring due to strengthening of immune system in HIV-infected patients after initiation of antiretroviral therapy. Causes of IRIS can be infectious and non-infectious. In India where leprosy is prevalent, IRIS in HIV positive individuals can manifest in the form of lepra reactions. We report a case of HIV-infected male who presented with borderline tuberculous leprosy in type I reaction after the initiation of highly active antiretroviral treatment (HAART). Patient presented with multiple, tender, edematous and erythematous plaques on the trunk and extremities after 3 months of antiretroviral therapy. Lesions showed hypoesthesia associated with painful enlargement of nerves. Patient was started on multidrug therapy (MDT) with continuation of antiretroviral treatment.

Evaluation of the Occurrence of Type 1 Reaction in Hanseniasis [Leprosy] Patients

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Introduction: Hanseniasis reactions can happen at any time of the disease’s chronic course, except in its undetermined form. In the T and D forms, the most frequent reaction is cell-mediated and referred to as type 1 reaction. Methods: The assessment of 123 Hanseniasis patients of both genders (60 with T form and 63 with D form) included clinical diagnosis, biopsy, Mitsuda reaction and bacilloscopic index. Results: Of the 123 patients assessed, 59 (47.68%), of whom 35(59.32%) were females and 24(40.68%) males, showed reaction episodes, which happened before, during and after drug treatment. These reaction episodes occurred in 39(66.10%) of the patients exhibiting the D form and 20(33.89%) with the T form of the disease. Conclusions: Type 1 reaction happened in 47.96% of the patients. Incidence was higher among dimorphic cases with predominance of the female gender and negative Mitsuda reaction. Key words: hanseniasis – type 1 reaction.

The Frequency of ENL in Patients Received WHO MDT

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The aim: to estimate the frequency of ENL in leprosy patients received WHO MDT. The methods: clinical control. Results: ENL developed in 35% of patients received WHO MDT and began in the period of 6 months 2 years after treatment beginning. One patient had some episodes of ENL in anamnesis before leprosy was diagnosed. In two patients it was necessary to stop the treatment for some time because of hard ENL. None patients with ENL showed the progression of damage of peripheral nerves. Conclusion: As ENL often takes the chronic character and lasts more than 2 years, the shortening of the therapy may increase the risk of disability development. Only specialists can diagnose ENL and minimize the risk of lowering the quality of patient’s life. May be the high percent of ENL was connected with the age of patients under control (mostly older than 60 years). Key words: leprosy, WHO MDT, ENL.
Co-Existing: Type I and Type II Lepra Reaction in a Borderline Lepromatous Patient

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Although the aetiology of Type I and Type II lepra reactions is still not fully understood, they are both well described and encountered across the spectrum of Hansen’s disease. Type I reactions are commonly seen in BLHD, while type 2 reactions are commonly seen in LLHD and infrequently in BLHD. To have both type I and type II reactions coexisting is very rare and only a few have been reported to date. We report a 33 years old man who had been diagnosed to have leprosy and treated with MDT. His skin smear was BI = 3, 25 + with no MI. He presented with crops of painful nodules diagnosed to be ENL histologically. On examination, he also had large erythematous oedematous non-esthetic plaques, which showed histological features of Type I reaction. The patient was treated with Clofazimine 100 mg, tid, Hydroxychloroquine and tapering doses of oral steroids, with which both reactions were controlled. This case is reported for its rarity.

Azathioprine in Type I Reaction in Leprosy

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Introduction: Treatment with prednisolone in Type I Reaction and neuritis in leprosy is the mainstay and its role is well known. But recurrence of reactions in leprosy is unavoidable in 15-20% of patients. There is a need for an optimum steroid regimen. Alternative drugs also need to be explored. Azathioprine (AZT) is an immunosuppressant and is useful in several immune related conditions and has been reported to be useful in leprosy. Material and Methods: Patients with repeated type I reactions visiting the Referral Centre of Bombay Leprosy Project were selected. Basic investigations like haemogram, liver function test, renal function test and urine routine along with clinical, bacteriological & nerve assessment was done and repeated fortnightly. Clinical photographs to assess the progress were taken. After informed consent, patients were included in Group A (Only AZT) or Group B (AZT + prednisolone). Patients were followed up for one year. Results: Fourteen patients have been included so far (Group A -7, Group B -7). Three patients improved in AZT, while six improved in AZT + prednisolone. Two are under treatment. In three patients, the clinical response was static. Three patients had abnormal liver function tests and leucopenia. Conclusion: Most of the patients tolerated the drug well. It is early to comment on the efficacy. Follow up of the patients is in progress and we intend to increase the number of patients in the study.

Chronic Myeloid Leukaemia in a Leprosy Case – A Sequential Observation of Haematological Parameters

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The association between malignancies and leprosy is uncommon. We report the sequential observation of haematological changes in a leprosy patient with Chronic Myeloid Leukaemia (CML). CASE REPORT A known case of leprosy patient got admitted on 10-2-2000 in our hospital for plantar ulcer care. Haematological tests were done as part of routine investigations, showed leukocyte count – 8,400/cumm, normal differential count and hemoglobin percentage. Subsequently he got admitted four times with a periodical interval ranging from 6-8 months for plantar ulcer treatment between 15-9-2000 and 5-8-2002. Total leukocyte counts during the four visits were observed to be 19200, 34600, 64000 and 2,20,000/cumm sequentially. Differential counts of leukocyte showed mild to marked shift to left. At later stage, 5-10% blasts were also observed in the last sample. Rise in platelet count, Basophilia and fall in hemoglobin was also documented. Bone marrow examination and Philadelphia chromosomal studies could not be carried out due to lack of facilities. Massive splenomegaly and hepatomegaly were noted clinically. All other vital signs were normal. Patient was advised to attend medical college Hospital, Chengalpattu for further management. Patient expired after 16 months, may be due to blast crisis. This is one among the rare reports on occurrence of CML in leprosy patient.
Histioiod Leprosy - A Report of Six Cases

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Histioiod leprosy was believed to be a drug resistant type of leprosy. We report six male patients of histioiod leprosy ranging from 38 to 45 in age. All patients had shown the characteristic histioiod nodules, chest wall and abdomen were mostly affected. Slit skin smears ranged from 4-5+ BI. Histopathology was characteristic in all cases. The patients responded to treatment with standard WHO MDT-MB regimen. These cases were highlighted for their rarity.

A Case of Spontaneous Recovery from MB Relapse vs A Possible Case of Late Lepra Reaction Mimicking Relapse (?)

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This case report aims to demonstrate the complexity of leprosy as an immunologic disease and the importance of the patient's immune response to M.leprae in determining the clinical course of the disease. A 29 year old male was clinically and histopathologically diagnosed of lepromatous leprosy. The initial average BI was 4.8+. A couple of years after treatment completion, all lesions had disappeared. Skin smears taken from standard sites also became negative. On the 5th year after treatment completion, numerous new skin lesions consistent with leprosy associated with neuritis were noted. Steroids relieved the neuritis but the lesions persisted. On the 7th year, the highest BI at one site was already 2+. Histopathology showed indeterminate leprosy. Despite these findings, no additional anti-leprosy treatment was taken. However, a year later, spontaneous and complete clinical, bacteriologic and histopathologic clearance of the disease was demonstrated.

Reactive Perforating Hanseniiasis Pustular Erythema Nodosum Leprosum with Transepidermal Elimination of Acid Fast Bacilli - A Case Report

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A 23-year-old Indian male presented with pustular erythema nodosum leprosum reaction (ENL), developing de novo. He had multiple pustular and crusted skin lesions on extremities and trunk, along with other features of ENL. Slit smear examination from the skin lesions was highly positive and histopathology confirmatory of ENL reaction. The dense upper dermal acute inflammatory infiltrate was seen perforating the epidermis along with multiple solid staining acid fast bacilli to collect under the stratum corneum. Transepidermal elimination of lepra bacilli has been reported rarely in reactional leprosy. However, this may an important mode of elimination of acid fast bacilli through the skin in reactional leprosy, specially from the pustular, vesiculobullous, eroded or crusted skin lesions. The author's earlier reports of inoculation leprosy after unhygienic tattooing and smallpox vaccination and the present case, strongly suggest the role of skin in leprosy transmission. This is the first report TEE in pustular erythema nodosum leprosum reaction in leprosy.
Large Nerve Abscess – Ulnar Nerve – Case Report

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Reporting a large swelling in the Right elbow region in a leprosy patient with no neurological deficit in the muscles or sensation in the area supplied by the Ulnar nerve, the swelling was noticed 5 years ago which slowly grew in size over the past 5 years. He was treated for leprosy based on skin patches and was given MBMDT for 1 year, RFT 1 year ago. Initial and RFT smear were negative for Lepra Bacilli. On examination the following Differential diagnosis were made. 1. Large Lipoma 2. Ulnar Nerve Abscess 3. Tuberculosis of the Elbow Joint with a cold abscess 4. On exploration a large abscess arising from the Ulnar Nerve is seen (pedunculated). This abscess was managed by total excision of the abscess and hemi circumferential neurolysis of the Ulnar nerve with no nerve function loss. Key words: ulnar nerve, nerve abscess.

Differential Diagnosis of Edema and the Neuropathy of the Hypothyreoidism with the One of Leprosy: Reporty of a case

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Introduction: The occurrence of edema in the course of leprosy is relatively frequent and classically is described in the course of the reactional states. Method: Medical records were recovered. Result: Mrs. of 54 years, obese, diabetic type 2, hypertension, of the home, without antecedent for leprosy, edema vespertine, cramps and parestesias. Normoestéicas cutaneous injuries, edema, absence of neural thick. Normal sensitive and motor mapping. Negative bacilloscopie, serum hormones thyroid T3: 0.39 (VN: 45-137 ng/dl), T4: 0.40 (VN: 4.5-12.5µg/dl), TSH: 97.61 (VN: 0.5-4.7 µUI/ml), glycemia: 100 dI(VN: 70-99 /dl). Electromyography: Syndrome of the tunnel carpo and the accented, bilateral tunnel tarso and of the canal of Guyon accented in the left hand. Diagnosis of which had serious neuropathy to the serious hypothyreoidism. Conclusion: Edema e the neuropathies of leprosy can be confused with other illnesses or turns associates they, therefore it has necessity of if investigating the diverse etiologies.

Recurrent Type I Reaction in Adolescent Age — A Case Report

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Introduction: Type I reaction poses as one of the most challenging clinical problems in leprosy management. Using steroids in standard schedule helps to control reactions, but 15 – 20% of patients develop recurrences. We present a case report of a young girl with recurrent Type I reaction in Leprosy. Case report: A young girl, RR/10 years was referred to the Referral Centre of Bombay Leprosy Project with multiple deeply erythematous raised skin lesions on face, upper limbs and lower limbs with duration of seven months. Diagnosis of Type I reaction without neuritis was made. Patient was abnormally obese (weight 50 kg) compared to her age. Mean B.I. was 1+ . She was put on prednisolone 40 mg/day, tapered gradually over eighteen weeks. Standard MB-MDT started after giving steroids for two weeks. Patient responded well but when dose was tapered to 5mg / day, developed recurrence of lesions on face and extremities with intense erythema. No nerve function impairment observed. At the time of recurrence and on history it was found that the girl had severe upper respiratory tract infection a few weeks back. Discussion: Recurrence of type I reaction in leprosy particularly in the adolescent age group and its management may be challenging, as some cases are refractory to anti-inflammatory treatment. The interest in this case is whether the recurrence was due to any endocrinial/hormonal involvement in adolescence or whether concurrent illness precipitated the reaction. The exact endocrinial mechanisms are not clear to help a rational approach to management.
Leprosy and Co-morbid Disease: A Profile from A Regional Hansen's Disease (Leprosy) Clinic in The USA

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Patients with a range of chronic primary disorders such as diabetes, heart disease, COPD [chronic obstructive pulmonary disease], Parkinson's Disease, Huntington's Disease, and Rheumatoid arthritis, to name a few, often suffer from concurrent, co-morbid disorders. There is ample literature published which contends that patients with such multiple medical disorders do not fare as well in disease resolution and functional outcomes as those who have fewer co-morbid disorders. Patients affected by leprosy unfortunately can also develop concomitant disorders which may hinder healthy clinical and functional outcomes. Primary care providers need to consider this in order to prepare a dynamic and holistic plan of care. There are currently several hundred patients affected by leprosy being served at the Regional Hansen's Disease Clinic in Los Angeles. This clinic is one of 11 regional clinics situated throughout the USA which are administered by the National Hansen's Disease Program based in Baton Rouge, Louisiana. The purpose of this poster presentation is threefold. 1. To highlight the varieties of complications sustained by many patients affected by leprosy with co-morbid disease and the ramifications of such morbidities in the context of their activities of daily living (ADLs). 2. To elaborate on the strategies and interventions selected to help ameliorate the resultant complications, impairments or disabilities. 3. To educate the reader of the value of monitoring any complications, impairments, or disabilities that arise from such co-existing disorders in order to optimize overall clinical and functional outcomes.

Co-Infection of Mycobacterial Diseases

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Introduction: Damien Foundation Bangladesh has been providing Leprosy and TB Control services since 1994 through combined TB & Leprosy clinics. This retrospective study was carried out to see the frequency of co-infection by Mycobacteria (M. tuberculosis & M. leprae). Methodology: A 10 years Cohort Study was conducted in 6 districts of northern part of Bangladesh covered by Damien Foundation. The cohort consisted in a total of 4788 leprosy cases registered during 1997 to 2006. This study was based on examination and analysis of treatment records of all cases. Results: There was a total of 25 (0.52%) cases who developed both diseases. The average period between the occurrence of leprosy and tuberculosis (or the reverse) was 2.5 months. Among the co-infected cases 64% were multi-bacillary (MB) leprosy & 44% of the MB cases were bacteriologically positive. 92% of the Co-infected cases were males. All cases were co-infected with smear positive pulmonary TB. The mean age of the patients was 50 years (range 28 to 80 years). All Patients successfully completed their treatment for both diseases. Conclusions: Co-infection with TB/Leprosy is not rare. Early diagnosis and simultaneous treatment can cure both diseases and can limit chronic suffering and disability. Key Words: Co-infection, TB, Leprosy.

Leprosy in AIDS' Immune Reconstitution Syndrome

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Introduction: Leprosy and HIV infection are highly prevalent in Brazil, although few reports have examined the interactions between these two infections. The authors demonstrate that leprosy reverse reaction in AIDS' patients under anti-retroviral therapy may represent immune reconstitution syndrome. Methodology: Clinical and laboratorial data of seven AIDS out patients under HAART therapy who had leprosy reverse reaction during their immunological improvement. Results: The seven patients were classified either under tuberculoid borderline or borderline leprosy. Despite severe reversal reaction, all of them had favorable evolution, reassuring the assumption that AIDS does not interfere in the evolution of leprosy, although HAART may interfere in the presenting features of the diseases. Conclusions: Despite not having caused a specific impact in the trend of the disease in Brazil, it may change the form of presentation of the disease in the context of the immunological HAART-induced reconstitution syndrome. Key Words: AIDS, Leprosy, immune reconstitution syndrome.
Concurrent Leprosy and Tuberculosis: Report of Seven Cases

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Introduction: Leprosy and Tuberculosis are endemic in Brazil. Clinical, epidemiological, immunological and therapeutically aspects were studied in seven patients who presented concurrent leprosy and tuberculosis. Methods: Review of 07 files of Leprosy out-patients presenting concurrent tuberculosis, admitted to our University Hospital, from 1993 to 1996 to assess clinical, epidemiological, immunological and laboratorial data and therapeutics aspects. Results: Seven male patients, newly diagnosed, with the mean age 40 were treated with WHO/POT MB (24 doses) and presented type 2 reaction and peripheral neuritis under thalidomide and steroids therapy except one who had episodes of reversal reaction also treated with steroids. The concurrent tuberculosis diagnosis was made during leprosy treatment. Conclusion: The concomitance of leprosy and tuberculosis are related to epidemiological and immunological aspects. We postulated that tuberculosis infection occurred after the leprosy infection because if it was previous, tuberculosis infection would be able to prevent multibacillary leprosy, as it occurs with BCG vaccination. Key words: Leprosy; Tuberculosis; Concurrent infections.

Nostalgia Paresthetica: Differential Diagnosis of Leprosy

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Introduction: The Nostalgia paresthetica (NP) is a rarely reported dermatologic condition characterized by hypoesthesia and, at times, pigmentation in a patch on the medial scapular border. Is sensory neuropathy of posterior rami of thoracic nerves T2 - T6. In addition to intense pruritus, a few patients have complaints of “tingling” and hyperalgesia with tenderness on the spinous processes. Sensation to light touch, temperature, and vibration may be normal or abnormal and hypoesthesia to pinprick may be noted. The cause of this disorder is not known. Case Report: Mrs. 32 years, has one year with stains brownish in the left, not pruritus dorsal region and with dormant. It denies contact with leprosy. Stains brownish area from T2 to T6 thoracic dermatomes, thermal, protective and tactile hypoesthesia. Initially with diagnosis clinical of leprosy. However it did not have clinical improvement, then, carried through the biopsy, with the suggestive finding of NP. Conclusion: NP is not rare, but underdiagnosed for the poor clinical relevance. It is important to leprologist familiarize with this relatively common entity. Keywords: leprosy - nostalgia paresthetica.

Ultrasonographic Evaluation of the Median nerve in Leprosy

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Introduction: Early diagnosis of neuritis in leprosy is essential to reduce disabilities. Only a few works exist on the evaluation of nerve thickening by ultrasound in leprosy. The specific objective was to compare the diameter of the median nerve, at a given location, in leprosy patients to that of normal persons, using ultrasound. Methodology: 20 adult patients with paucibacillary leprosy and 20 adult healthy individuals, with equal gender distribution, had their median nerves, at the anterior surface of the distal third of the forearm, examined by ultrasound. A 7.5 MHz ultrasound device was used to measure the largest and the smallest transverse diameters of the nerve. Results: Transverse ultrasound sections have not shown either thickening or asymmetry of the nerves. The largest transverse diameters in leprosy patients, as well as in control individuals, were significantly (P < 0.01) greater in males (mean 4.3 mm) than in females (mean 3.8 mm). Conclusions: In this work, no differences were found, between leprosy patients and normal individuals, in the diameter of the median nerve. The nerve, at this location, was found to be thicker in males than in females. Keywords: Median nerve. Neuritis. Ultrasonography. Leprosy.
Comparison of Skin Smear, Histopathology and Clinical Data in the Diagnosis and Classification of Leprosy

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Introduction: A number of assessments are made of patients in order to correctly classify the type of leprosy presenting according to the Ridley-Jopling (RJ) spectrum of the disease. These include the clinical signs and symptoms observed by the clinicians, skin slit smear, and histopathological examination of the skin. Methods: We undertook a retrospective chart review of all patients for whom histopathological reports were obtained during the period 2000-2006. This included a total of over 700 patients. Correlation between the clinical and histopathological data recorded was analysed, and the relative utility of clinical tools in classifying the disease was evaluated. Key words: skin smear, histopathology and clinical correlation

Axonal Motor and Sensory Polineuropathy Complicated with Leprosy and Pellagra

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Introduction: This is a case report to highlight the high prevalence of leprosy in Brazil and the concomitant occurrence of leprosy with other dermatologic diseases and neuropathies of distinct etiologies. Methods: Patient’s clinical record review. Case Report: This is a 54 black male patient, living in São Paulo, Brazil. He was diagnosed with congenital strabismus, hypertensive disease, chronic use of alcohol and smoking. Between 2006 and 2007 he was diagnosed and treated with polichemotherapy for borderline leprosy, level 2 handicap and vitamin B deficiency (pellagra). Besides the characteristic leprosy neuropathy he presented other clinical signs as follows: winging scapula, deltoid and biceps muscle hypotrophy, and temporal muscle atrophy. Tendon reflexes were absent in the four limbs. Eletroneuromiography showed leprosy sensory polineuropathy, associated to chronic motor sensory neuropathy secondary to brachial and distal wallerian degeneration. The most probable diagnosis is of Hereditary Motor and Sensory Neuropathy, or Charcot Marie Tooth type II. Genetic investigation is ongoing. Keywords: leprosy, CMT, pellagra

A Retrospective Study of Neuritis Cases From 2000 to 2006

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Introduction: Peripheral nerve damage is a major challenge in leprosy. Neuritis may occur with or without Type I & II reaction. A retrospective study was undertaken to gain insight into factors contributing towards neuritis. Methodology: When 660 cases registered from 2000 – 2006 were analyzed retrospectively, 127 had neuritis. Complete clinical details were documented for 52 cases. Results: 73% of neuritis cases fall in 15-20 year age group. 26% of cases were females. 65% of neuritis cases had anesthesia, 27% were associated with Type I and/or Type II reactions. A correlation of clinical with histological classification was observed in 9.5% of skin and 66% of nerve biopsies. 11.5% cases had neuritis even after RFT. Majority of cases had steroid treatment for a period of 6-12 months. Contribution of BL and LL cases towards neuritis was more compared to BT cases. Conclusion: Gender, age, number of lesions and truncal nerves involvement were associated with neuritis. Improvement in motor function was more than sensory function. Key Words: Leprosy, neuritis, Peripheral Nerve damage, steroid.
Lower Touch Sensibility in the Extremities of 568 Healthy Indian Subjects: Further Deterioration with Age

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Background: Touch sensibility testing with Semmes-Weinstein monofilaments (SWM) is a cost effective, objective measure of peripheral nerve impairment. Methods: Since detection of early nerve deficit would be important for prevention of deformities, 568 healthy Indian volunteers without any clinical evidence of disease were evaluated for touch sensibility in the palms, feet and heels, using SWM, with target forces ranging from 0.008 to 300 gm. Results: The lowest and the highest target force detected in the palm was 0.4 gm and 2 gm whereas, 1.4 gm and 15 gm respectively were observed in the foot. These values are higher than reported for other populations. The palms were more sensitive than the feet or heels (p<0.0001). With increase in age there was reduction in sensory perception in both extremities (p<0.0001). Women as compared to men had higher sensibility in the palms. Conclusions: These findings have clinical implications for the diagnosis of early nerve impairment in leprosy patients especially in the elderly age group and draw attention to geographic variations in touch sensation. Key words: Sensibility, sensory testing, screening for neuropathy, SWM filaments, India.

Scrotal Skin Involvement in Lepromatous Leprosy

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Introduction: Scrotal skin is considered to be immune to the occurrence of leprosy lesions despite the lower temperature of scrotum and testicles which favours the growth of M. leprae. We hereby report a rare case of involvement of scrotal skin in lepromatous leprosy. Case report: A 60 years old male patient presented with progressive, hypopigmented, shiny plaque measuring 3x2 cms in size over the anterior surface of scrotum of 6 months duration. The plaque was infiltrated with intact sensation. On further examination similar lesions were found on the medial aspect of both the thighs. Bilateral ulnar and common peroneal nerves were thickened and non-tender. Routine examination of blood and urine were normal. Slit skin smear for acid fast bacilli showed 4+. Biopsy confirmed the clinical diagnosis of lepromatous leprosy. Discussion: Though scrotal skin is considered to be immune to the occurrence of the leprosy lesions, clinical involvement of the scrotal skin in all types of the disease spectrum has been reported by several workers. In continuation to the above presentations we hereby report a case with involvement of scrotal skin in lepromatous leprosy.

Clinical Pathological Correlation in 952 Cases of Leprosy

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Leprosy is diagnosed by its classical features. at times the diagnosis becomes difficult and we have to resort to simple investigative procedures like skin biopsy. Aim: To correlate the clinical and histological features in leprosy. Materials and Methods: 952 cases were taken for the retrospective and prospective study. 110 nerve biopsies were done. Slit smears were done in all cases. the results were analyzed using paired T tests. Results: Correlation was higher in TT leprosy (74%) and in LL leprosy (82%). Borderline and indeterminate cases showed much variations. Patients who attended within six months on onset of the symptoms showed higher degree of correlation. Nerve biopsy was found useful in diagnosis in patients with shorter duration of symptoms and in difficult cases. Conclusion: histopathology of skin and nerve biopsies were useful in 70% of cases.
A Case of Florid Lepromatous Leprosy with Palatal, Oral and Nasal Involvement with Septal Perforation, Identified in the Post Elimination ERA

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A patient is reported who presented with multiple nodules all over the body. He was diagnosed to have LL HD with palatal, oral mucosal and nasal involvement with a septal perforation. Contact examination revealed that his wife had Borderline Tuberculoid leprosy. We wish to emphasize the fact that in the post-elimination era, after the leprosy programme has been integrated, diagnosis may be delayed. This would result in existence of pockets where highly bacilliferous cases may continue to be present in the general population and thus be sources of infection within the community. This may also be responsible for the continued transmission of the disease, and non-decline of the incidence rates in spite of adequate leprosy control activities. We cannot over-emphasize that in addition to early diagnosis and commencement of treatment, contact examination is of paramount importance.

Neural Pain in Leprosy Patients

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Neural pain is one of the most distinctive and important symptoms in leprosy. In order to prescribe the adequate treatment it is essential to differentiate neurogenic from neuropathic pain in these patients. A retrospective analysis of 697 files of the FIOCRUZ Leprosy Clinic showed that 124 patients referred neural pain during follow-up. Neuropathic pain was observed in 55 patients, neurogenic pain in 50 and both in 19. Sixty percent of the patients (71/119) had altered ENMG all with mononeuritis multiplex. Among the 69 patients with neurogenic pain, the most frequent pattern of neurophysiological lesion was demyelination. Although most of the lesion had no definitive pattern (non-classified=23%) among patients with neuropathic pain, axonal was 13%. The patients demonstrating neuropathic pain had more severe neurological dysfunctions and conversely, patients with neurogenic pain had a tendency to develop a reversible nerve dysfunction. Keywords: Neuropathic pain, neurogenic pain, ENMG, demyelination.

The Uncomplicated Neuropathic Foot in Leprosy Patients: A Clinical and Radiological Follow-up Study

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An MRI study in 2000 on 10 leprosy patients with neuropathic feet, but without clinical complications such as ulcerations, osteomyelitis or Charcot deformities (so-called uncomplicated neuropathic foot), revealed abnormalities in 9 patients, with degradation, interruption of subcutaneous fat and effusion/synovitis, all located in the first metatarsophalangeal (MTP) region. Since these MRI abnormalities may precede clinical complications of the foot, a follow-up study was performed. Methodology: New evaluation was based on a clinical examination and an MRI Results: Four patients were lost to follow-up. Average follow-up period was 4.6 years. MRI findings in the MTP 1 region at the start of the study disappeared in 3 patients, but were still present in 2 patients. In 6 patients new MRI findings were found, without clinical signs of ulcerations, osteomyelitis or Charcot deformity. No relationship could be found between MRI findings in the MTP 1 region at the start of the study and the development of foot ulcers, callus or skin fissures in the MTP 1 region during follow-up. Conclusion: MRI findings of interruption and infiltration of the subcutaneous fat of uncomplicated neuropathic feet in leprosy patients do not necessarily have any clinical implication for the development of future foot problems. Keywords: leprosy, osteomyelitis, neuropathy, imaging.
Histoid Leprosy in an Eight Year-Old Child

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Introduction: The histoid type of leprosy has been described as occurring in lepromatous leprosy patients who relapse after many years of apparently successful dapsone monotherapy. The authors demonstrate a case of histoid type of leprosy in an eight years old child who had never received anti-leprosy treatment. Methodology: clinical and laboratorial data of a child with histoid leprosy. Results: The child presented with a number of erythematous to brownish gray, firm but elastic nodules involving mainly the extremities. The skin biopsy showed histologic pattern of histoid variety of lepromatous leprosy and the skin smear showed a high bacteriologic index. He had never received anti-leprosy treatment and neither his parents and others relatives. Conclusions: After India, Brazil is the second country with the greatest number of cases in the world. Histoid leprosy may occur as a relapse, in the setting of sulfone resistance, or may present de novo. This is a great public health problem and early detection and management of this entity among children is very important. Key words: histoid, leprosy, child.

Leprosy Patient's Perception and Reality About Oral Health

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Introduction: The objective is to know the oral condition of leprosy patients, the perceptions about their oral health and the way with they deal with their problem. Methodology: 63 leprosy patients answered a questionnaire, and were undergone the oral examination in Serra, Brazil. Results: Age ranged from 9 to 70 years; 46% were female and 54% were male; 65% had less than 8 years of study; 65% classified themselves oral health varying regular to excellent. 71,4% patients had lost at least a tooth; 30% used some type of prosthesis and the necessity of prosthesis was of 54%; and 36% had more than 3 years from the last dentist evaluation; and 43% were assisted at the private service. The pain (36%) was the most frequent complaint that it was treated in the majority of the cases with dental extraction (30%). The periodontal disease was shown in 32% among patients up to 30 years of age. Conclusions: The toothache was the most frequent dentistry complain, the earlier dental extraction was a serious problem. Difficulties at accessing the public oral services even though they are provided. Patients did not realize their own oral condition, and caused a contradiction between their perception and dental findings. Key Words: bucal, periodontal disease, tooth. Financial Support: FAPES/ES/Brazil.

Pathogenetic Factors of Liver Damage and Their Correction in Treated Leprosy Patients

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The aim of investigation is to improve the diagnostics and treatment of hepatitis in leprosy patients during chemotherapy. Methods are biochemical, immunologic, cytochemical. There were observed 60 treated lepromatous leprosy patients. It was stated that 20% cases had the features of liver damage characteristic of chronic persisting hepatitis. It was shown that such patients had some signs of oxidative stress in type of increased secondary lipid peroxidation products concentration determined by ultraviolet spectroscopy method and increased level of stable to oxidation lipids in blood. These changes were combined with increased spontaneous chemiluminescence of circulating leucocytes in vitro. Besides it, the patients with hepatitis had increased level of C-reactive protein and tumor necrosis factor alpha. During hepatoprotective therapy the patients had ademetionine (heptral). After the course of therapy there were observed the positive clinical and laboratory dynamics. Pathogenesis of leprosy hepatitis is connected with combination of metabolic and immunologic mechanisms, effective correction of which is possible by heptral usage. Key words: leprosy, lipid peroxidation, heptral.
Physical Methods of Leprosy Patients Rehabilitation

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The aim: to perfect the methods of physical rehabilitation of leprosy patients. The method of treatment and prophylaxis of specific neuritis and neurotrophic ulcers of feet in 60 leprosy patients at the age of 31 to 75 was used in combination with apparatus phototherapy, neuroadaptive electrostimulator “scentor” there was made the electropuncture processing of skin zone in damaged nerves. In case of surface neurotrophic ulcers of feet the phototherapy by apparatus “Ivolga” was used. In complex cases laser therapy with the help of apparatus “Mustang – Bio” was used. Combined indication with complex chemotherapy decreases the risk of leprosy complications and improve patients life. The pain syndrome disappears, the dates of recovery decrease, the number of ulcers becomes less. The results were proved clinically and by laboratory data. The number of serum neuropeptides increases, positive dynamics of electropuncture meridiums Riodorakus, biologically active points of skin, improvement of microcirculatory processes in tissues. The usage of this method increases effectiveness of rehabilitation and may be recommended to practical work. Key words: physical rehabilitation.

Pseudo- Isomorphic Phenomenon of Koebner in Histoid Leprosy - Yet Another Evidence of Role of Skin in Leprosy Transmission

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A 30-year-old Indian male with histoid leprosy developing de novo, had pseudo- isomorphic phenomenon of koebner on the left buttock, suggested by the linear distribution of skin lesions. He also had several umbilicated (molluscomed), crusted / eroded histoid lesions on the limbs and the trunk. Silt smear examination was highly positive and histopathology confirmatory of histoid leprosy, sections showing acid fast bacilli at umbilicated, eroded sites also. This phenomenon occurs in certain infectious skin diseases like warts and molluscum contagiosum due to auto-inoculation of the infectious organism at traumatic sites. Similarly, it is possible that the bacilli excreted from the dense, rapidly growing granulomas in the present case, might have been subsequently inoculated through the traumatized skin. The author’s earlier reports of inoculation leprosy after tattooing and smallpox vaccination as well as the present case, strongly suggest the role of skin in the transmission of leprosy. This is the first report of pseudo-isomorphic phenomenon of Koebner in leprosy.

Classification of Leprosy Patients: Comparing Three Methods to Differentiate Between PB and MB Leprosy

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Introduction: Due to the wide range of presenting signs, correct classification of leprosy patients remains a clinical challenge. A number of classification methods have been utilized: the current WHO classification guidelines are based on counting only the number of skin patches and affected nerves. Utilization of skin smears in diagnosis and classification is not encouraged. Previously in Nepal a third method of classification was used, based on the number of body areas affected. Methods: In our clinics, patients have routine skin smears, and all smear positive patients receive MB MDT, irrespective of the number of patches or affected nerves. We have undertaken a retrospective chart review of all smear positive patients diagnosed in Anandaban during the period 2000-2005, in order to compare the three classification systems. Results: Good agreement was found between all three classification systems, although both the WHO and “Nepal” classification systems under diagnosed MB leprosy, 23 (8.0%) and 25 (8.6%) of 288 smear positive patients being wrongly classified as PB using the WHO and “Nepal” clinical guidelines, respectively. Key words: classification in leprosy, correlation.
**Leprosy Among Tribal Population In Chhattisgarh State, India**

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Very little information is available on changing profile of leprosy among scheduled tribe population in several states in north India. Chhattisgarh state is carved out of earlier Madhya Pradesh state and is situated near Orissa and Jharkhand(formerly Bihar)  
Several districts in this state have a large component of tribal population, some of them in relatively inaccessible geographic areas. New leprosy patients seen at TLM hospital in Champa during the period 2003-2006 are described in relation to tribal and non tribal groups in terms of age, sex, type and severity of leprosy and deformity. Of 735 new patients registered, there were 57 tribals (32 males and 25 females), 196 scheduled castes and 482 belonging to other communities. Ten percent of tribal patients were children as compared to 15% among scheduled castes and 9% among others. Among tribals, MB patients constitute 72%, and 16% had grade 2 disability. 10% defaulted from MDT. Tribal patients compare well with others and have taken advantage of the leprosy services available, although there is still a delay in reporting. **Key words :** leprosy, tribal populations.

**Clinical and Bacteriological Correlation : A Retrospective Study Among 1000 New Patients Registered for Treatment at Outpatient Facility in Uttar Pradesh**

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**Introduction :** A popular outpatient facility attracts a large no. of patients from far and wide. In the elimination era also highly BI positive cases are also seen. **Methods :** Carefully kept clinical records gleaned for clinical and bacteriological data, collected, composed and compared for any correlation. **Results :** Over 600 new self-reporting cases get diagnosed with leprosy registered for treatment each year at this outpatient facility. Clinical and bacteriological records are kept and maintained according standard protocol. Data was collected for number of skin lesions, affected nerve trunks, with or without reaction episodes and bacteriological index on Ridley Jopling scale. These data pooled and analyzed for any correlation and the results reported for a 1000 patients. **Key words :** clinico-bacteriological correlation, leprosy.

**Interference of Multibacillary form and of G6PD Activity in Anemization During Sulfone Treatment in Leprosy**

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**Introduction :** Brazil is the country with the greatest number of leprosy. Anemia in leprosy can be caused by hemolysis due to sulfone (G6PD), through proper action of the drug, chronic inflammatory disease and by iron deficiency. This study verifies the frequency of anemia in relation to sex, age, form of the disease and dose of G6PD. **Methodology :** Review of charts in a retrospective study of ambulatory leprosy patients. They were classified with regard to age, sex, race, leprosy pole, G6PD enzyme activity levels, hematocrit, hemoglobin(Hb), reticulocytes, billirubins, haptoglobin and DHL. **Results :** The total of 40 patients included 22 men and 18 women. 50% anemized in the two groups, all carriers of the multibacillary form. There was no correlation between age and anemia (p=1.23 for women and 0.49 for men). There was no correlation between G6PD levels and anemização (p=0.78 for women and 1.34 for men). **Conclusion :** The most important factor in anemization is the form of multibacillary presentation in the disease. There is no influence of gender, iron deficiency or G6PD activity in the genesis of anemia. **Key Words :** Leprosy, G6PD, hemolysis.
Potential Mistakes in Diagnoses of Relapse of Leprosy in Brazil

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Objective: To analyze the potential mistakes in the number of cases with relapse of leprosy in Brazil during 2000 to 2006. Method: Epidemiological descriptive study of the analysis of the proportion of relapse of leprosy in Brazil, during 2000 to 2006. All cases of relapse were included in the study by municipality that recorded the case for treatment. The proportion of relapse was calculated for every municipality of the Brazil and it was compared to the proportion of relapse in smaller and equal or bigger municipalities of 40 thousand inhabitants. Results: Out of 10,208 cases recorded by relapse of leprosy in Brazil, 6,793 cases occurred in municipalities considered medium-size or big-size (66.6%) and 3,415 (33.4%) cases were recorded in municipalities of small-size. These last one maintained bigger proportion of relapse than on average of the Brazil. The South Region presented the biggest proportion of relapse, corresponding of 8.1%. The South regions and Center-West showed been more influenced by the diagnoses of relapse of the municipalities of small-size. Conclusion: The increase in the number of relapse has been influenced by the diagnoses made at the municipalities of small-size. It implies in the need of the program of leprosy and epidemiological surveillance to follow the patients after cures or cases suspect of relapse. Keywords: Recurrence, leprosy, epidemiological surveillance.

Squamous cell Carcinoma in the Elbow - A Case Report

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Elbow is rare site for squamous cell carcinoma, usually associated with post burn scar or DLE scars. Reporting a case of squamous cell carcinoma in a cured patient of lepromatous leprosy with glove and stocking anesthesia. The probable cause of squamous cell carcinoma is repeated trauma to the elbow. This case was managed with wide excision and radial forearm flap coverage. Post operatively there was complete functional recovery. Key words: squamous cell carcinoma elbow.

Rare Presentation of Leprosy in the OPD

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After the integration of Leprosy with the general medical services, it is imperative that no leprosy cases be missed out more so when it presents atypically. Here were present three unusual cases of leprosy. A 38 year old male presented at the hospital with complaints of dryness and itching all and was treated with antihistamines for 3 months. The patient had infiltrative lesions all over his body, multiple nerves were enlarged and his BI was 6+. A 7 year old female child presented to the hospital with dry parchment like scaly lesions all over the body of 1 year duration. She was diagnosed by a dermatologist as Morphoea and was treated for about a year. A diagnosis of indeterminate leprosy was made and she was put on MDT and her lesions are slowly improving. A 60 years old male with BT and anesthetic hands and feet, was admitted for severe septic shock. He gave a history of rat bite 3 days back. He was diagnosed as Gas Gangrene clinically and treated vigorously and started recovering only after three weeks of intensive treatment.
**Profile of Self-Reporting in Leprosy**

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**Objective**: To find out the Self-reporting patient in leprosy statues and the duration taken for the presentation to the hospital.  

**Methodology**: The patients registered during the period of 2005-07 August were taken for the study. All the details of files were taken for analysis.  

**Results**: 119 newly registered case files of both paucibacillary and multi bacillary leprosy patients were analysed. The findings show that there were 82 males and 36 females. Among them there were 101 self-reporting cases were found. The duration of first presentation to the hospital varies between the periods of 0-3 months, 3-6 months, 1-2 years commonly and a number of 15, 24, and 28 are respectively found in this time bound. This means still early presentation is still lagging in the presentation some of 10 patients reported after a period of 10-20 years and 13 cases were reported between the periods of 2 years – 3 years. Around a 66 cases were reported with the nerve involvement this means a 50% of Patients find tough for early presentation or lack in knowledge for early signs and symptoms. The paper also presents other causes for

**Effect of MDT in Pregnancy**

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**Hypothesis**: This study was carried out to see effects of the MDT in pregnancy.  

**Design**: Prospective Study.  

**Setting**: The study was undertaken in the TLM Chandkhuri Leprosy Hospital Dist Bilaspur.  

**Patients**: Total no was 20 whose who pregnant during the treatment.  

**Intervention**: MDT was started before/during pregnancy and patient was monitor for the outcome.  

**Result**: In 20 cases, 01 still born 1 IUD 4 ongoing but till date well, rest delivered healthy baby.  

**Conclusion**: It can be concluded that MDT is safe in pregnancy, can be used safely with close monitoring.

**A Retrospective Study of Individuals who Receive Modified MDT Following the Development of Dapsone Allergy**

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Dapsone Hypersensitivity Syndrome occurs in 2% of leprosy patients in Nepal. DHS and other allergic effects due to dapsone lead to withdrawal of the drug. We reviewed the notes of patients who had dapsone withdrawn from their MDT following an adverse reaction to the drug.  

**Methods**: The database of leprosy patients treated at our centre between December 1981 and June 2007 was reviewed and the charts of those diagnosed with dapsone allergy retrieved. The charts were reviewed by an experienced physician and data entered into an Excel spreadsheet. Patients in whom there was confirmation of completion of a modified course of MDT were included for further analysis. Individuals were excluded if there was no record of completion of modified MDT (including those who died) or if the diagnosis of dapsone allergy was incorrect.  

**Results**: 105 patients were identified from the 8417 in the database. 101 charts were available for review. 67 individuals had confirmed completion of MDT. The distribution of Ridley-Jopling classification was TT = 6, BT = 21, BB = 2, BL = 18, LL = 12, L1 = 1, PN = 1 and was not available for 6. 36 had positive slit skin smears. 52 were treated with MB MDT and 15 PB. Following the withdrawal of dapsone 60 patients received rifampicin and clofazimine. The other 7 received various drug combinations. Serial B1s were performed and no cases of relapse occurred in this group.  

**Discussion**: Our findings suggest that treating patients unable to take dapsone with rifampicin and clofazimine is not associated with relapse.  

**Keywords**: dapsone, allergy, relapse.
Skin Lesions in Proximity to Nerves at Risk in Leprosy: A Reason to Start Immunosuppressive Treatment and an Indicator to the Transmission of Leprosy?

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Introduction: This study reports on the relationship between a single skin lesion and the function of the nerve that is located in proximity to that skin lesion. Method: Charts were reviewed of patients with (1)-BT leprosy. The first cohort comprises 301 patients who attended a neuritis clinic. The relationship between skin lesion and Nerve Function Impairment (NFI) was also reviewed in a second cohort of newly diagnosed patients receiving MDT only. Results: In the first cohort, 31 patients (10.2%) were identified. Most patients with a single facial lesion (9/10) had normal function of the facial nerve. However, 16 patients were seen with a skin-nerve relationship of the ulnar and/or ulnar and median nerve(s), all of whom presented with NFI. In the second cohort of all newly diagnosed patients (n=327), 82 (25.2%) were classified as PB-BT leprosy. Ten were part of the first cohort. Of the remaining 72 patients, most patients (85.7%) with a lesion on the forearm or lower extremity had enlargement of the underlying nerve or the nerve proximal to the skin lesion. None of these patients had significant NFI. Discussion: In both cohorts nerve enlargement was not recorded in extremities in which there was no skin lesion. Keywords: ENL, thalidomide, prednisolone.

Occurrence and Management of 452 Patients with Leprosy Reaction in China

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Objectives: To understand the current situation of occurrence and management of leprosy reaction in the field from a point of health services. Methods: A retrospective survey using the questionnaire was carried out in all provinces of China at the beginning of 2006. The studied patients were those underwent leprosy reaction from 1 January to 31 December 2005. All data were inputted the computer and analyzed using Statistical Program for Social Sciences software, version 10.0. Results: About 452 questionnaires collected from 25 provinces were qualified for analysis. Among them, 313 were male and 139 were female patients with a sex ratio of 2.25. Referring to the type of reaction, 159 were type I reaction, 273 were type II reaction and 20 were type I and II mixed reaction. About 72.4% of reactions occurred in the first year of MDT and 27.6% of patients developed leprosy reaction during the second year of MDT. The highest occurrence of reaction was during 1-6 month starting MDT. About 44.2% of patients were followed up once a month or more and 57.3% of patients developed new nerve damage/disability during and after MDT. Conclusions: New nerve function impairment and disability still occurred among patients during and after MDT. The early detection of leprosy reaction and nerve function impairment should be strengthened. Keywords: Leprosy reaction.

The Possibility and Strategy for Misdiagnosis, Missed Diagnosis and Exceed Diagnosis of Leprosy

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1. The possible reasons of misdiagnosis and missed diagnosis. The possible reasons of misdiagnosis and missed diagnosis included lack of vigilance of leprosy, lack of knowledge of leprosy, not completely and serious examination, lack of good skill of examination, lack of the complex analysis based on a lot of clinical and laboratory data, leprosy figures were covered by the other disease, the variation of clinical features, some patients hiding the truth of leprosy features, and so on. 2. The possible reasons of exceed diagnosis. Some reasons involved in exceed diagnosis of leprosy. They included exceed political promise, the positive to eliminate leprosy, target and reward encouragement, lack of knowledge in dermatology and neurology, leprosy paranoia missed diagnosis as leprosy, amplified the patients of “single lesion leprosy” and “diagnostic treatment of leprosy”. 3. Strategy Firstly, we should keep “leprosy still existence” in the mind. Secondly, don’t look down on the patients and pay more attention to them. Understand and confidence between patients and doctor were important. Thirdly, strictly follow the diagnosis and examination standard. Completely check up and consult the history of the disease. Fourthly, education of knowledge was more useful and important, such as dermatology and neurology for specialist of leprosy, and vice versa. Fifthly, careful long-term follow up of the patients and their closely relatives should be mandatory.
Clinical Study of the Damage of Ulnar Nerve and its Functional Branches in Leprosy Patients

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Objective: To Study the damage of ulnar nerve and its functional branches in leprosy patients. Methods: 84 lepers founded in Yancheng, Jiangsu during recent 15 years were investigated by leprosy staffs and the ulnar nerve damage was judged by the regulated sense are and the dominated muscles of ever branch of ulnar nerves. Results: 35 cases have ulnar nerve damages among 84 lepers, accounted for 41.67%, with an average of 3.74 branch involved. The deep division of the ulnar nerve (23.21%) and the finger cutaneous branches of the forth interspace (19.64%) were the mostly commonly invaded branches among 5 kinds of branches of ulnar nerves. The little finger cutaneous branches (16.67%) were also often invaded. The dorsal cutaneous nerves of the hand (14.29%) were relatively less involved and the muscle branches of forearm of ulnar nerve (4.17%) were seldom invaded. The clinical features were dominated with the concurrent impairment of sense and motor, with a rate of 71.43% (25/35).

Conclusion: (1) The damage of ulnar nerve and its branches was commonly seen in leprosy patients. It is very significant in early detection of new leprosy case; (2) The damage of ulnar nerves was mainly presented with the type of branch damage. The branches located in the distal part of limbs were easily invaded by Mycobacterium leprae; (3) Early detection of leprosy case must be improved from the fact that the patients have high ulnar nerve damage rate and the damage are characterized with cutaneous sense and motor branches invaded. We suggested that carefully examination of the sense test including the dorsal cutaneous nerves sense test, be carried out to find the early nerve involvement. Key Words: Leprosy; Ulnar nerve; Functional branches; Damage.

MB—MDT Treated Leprosy to Recur 3 Examples

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Total of 287 leprosy cases (MB:235, PB:52) were treated with MDT regimen (WHO) from June, 1986 in Mianning county. 272 patients (MB2210PB51) among of those cases had finished the therapies and 266 (MB2150PB51) were cured. The cure rate increased obviously and those who cured would not suffered from the medication any more. We reported 3 relapsed patients who were treated in 2 years MB MDT regimens and followed up for 5 years and then were assessed to be cured. All of them were diagnosed from 1981 to 1982 and then were treated with only DDS or DDS combined RFP before MDT. We did not detected the drug-resistances of DDS and RFP on two patients who relapsed in 2005. All of 3 patients have not had disabilities and one of them had two episodes of relapse. MB-MDT re-treatment in each relapsed patient was still effective.

Therapeutic Effect Observation of Erythema Nodosum Leprosum (ENL) Reaction Treated with Combination of Traditional Chinese and Western Medicine

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Objective: Based on the Erythema Nodosum Leprosum (ENL) Reaction, the clinical effect of the peeled dry root of Tripterygium wilfordii combining with traditional Chinese dialectic treatment was studied. Methods: Based on traditional Chinese dialectic treatment, the treating group divides the reaction of leprosy ENL as (1) blood stasis type, (2) damp-heat type and (3) cold-dampness type. Use 15g peeled dry root of Tripterygium wilfordii as the basis, add with Taohong Siwu Soup plus Shixiaojie Powder, Si Miao Yong'an Soup, adjusted with Yang He Soup, decoct for two hours and take at two intervals, one portion per day, and 7 days as a course of treatment. If not healed, take another course of treatment and treated with western medicine according to the actual conditions of the disease. The control group was treated with Prednialone, Thalidomide, Potassium antimonyl tartrate (before 1985), B trimest (after 1985) and western medicine. Results: In the treatment group of 73 cases, 51 cases showed regression, 18 cases improved significantly, and the total efficiency rate is 94.5%. In the control groups of 52 cases, 34 cases showed regression, 14 cases improved significantly, and the total efficiency rate is 92.3%, P<0.05, and the difference had no significance. In the comparison of regression time between the treatment group and control group, P<0.05, the difference was significant. While the two groups in comparison of recurrence time after discontinued with treatment, P>0.05, the difference was significant. Conclusions: The method of peeled dry root of Tripterygium wilfordii combining with traditional Chinese dialectic treatment has the ability to adjust the overall function of patient, and improves the organism immune function, with many advantages such as rapid effect, less side effect and longer recurrence time after being discontinued with treatment. Key words: Combination of Traditional Chinese and Western Medicine, Erythema Nodosum Leprosum (ENL) Reaction, Therapeutic Effect Observation.
The Influence of Leprosy Reaction for MB Patients to Bacteria and Pathology

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Objective: To study the influence of Leprosy reaction to clinic, bacterial and pathology. Methods: To observe the two groups, one is leprosy reaction and the other is non-leprosy reaction for new patients during the period of MDT. Result: BI decreases as the period of treatment increasing, and has significance difference comparing the two groups at the 24months of treatment, has non-significance difference at the other periods of treatment. GF has non-significance difference at the period of treatment. BIG, LHI decrease obviously during the period of MDT, and has significant difference comparing the two groups, the difference is more significant as the period of treatment increasing. Conclusion: Leprosy reaction has non-significant influence to BI and GF, and has significant influence to BIG and LHI. Prompting leprosy reaction influence leprosy bacterial apoptosis and degradation rate, increases the danger of disability and treating difficulty, also influence clinical cure.

A Study of Early Detection of Silent Neuritis in Leprosy

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Objective: To investigate incident rate of silent neuritis in leprosy under MDT and supervisors and released control stage. Methods: To examine sensory and motor function of peripheral nerves at regular intervals so that early silent neuritis were discovered. Results: 456 cases of leprosy under MDT and supervisors and released control stage were observed. Among them 48 cases with silent neuritis were detected with 10.53% of rate. The incident rate of cases under MDT were significantly higher than in supervisors and released control stage (P<0.01). The rate in ulnar and tibial nerves was higher than in other nerves (P<0.01). The rate in ulnar and tibial nerves were higher than in other nerves (P<0.01) Conclusion: It is important for early detection of silent neuritis to examine function of peripheral nerve at regular intervals. Key words: leprosy; neuritis; Diagnosis.

Locognosia in Ulnar/Median Paralysis in Leprosy

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Introduction: The purpose of the study is study locognosia as a sensory testing tool in ulnar median nerve paralysis in leprosy and compare it with Semmes Weinstein monofilament testing Methodology: All patients who were assigned to have a sensory testing of the hand of hands were included in the study. Locognosia is the ability to localize touch/pressure to an exact point. The pulp on the volar aspect of the terminal segment is divided into four quadrants and each quadrant is tested for locognosia. The method of testing locognosia was explained to the patient and the test was carried out. Semmes Weinstein monofilament test was also done on the same hands. A group of controls also underwent both the tests. Thirty eight patients (73 hands) and 17 controls (33 hands) were tested. Results and Conclusions: Statistically significant difference between locognosia of leprosy patient group and the control group was observed. This difference was much more than that between SW testing between leprosy patients and the control group. There was also significant difference between locognosia and SW testing in picking out abnormal sensory function. Can locognosia be used to detect early nerve function impairment in leprosy? Key words: Locognosia, Semmes Weinstein testing, leprosy.