From the Editor

Recently Chandrayaan - 1 found evidence of water on the moon’s surface. Many scientists believe the discovery is very significant. They say water ice could serve as a natural resource for future lunar mission landings, can be liquefied into drinking water and water components could be used to provide breathing air and rocket fuel. This has been breakthrough advancement in 2010 on one hand and on another the earthquake in Haiti on 12th January was a major setback in which so many people died, many were injured and many became homeless. May the souls of the people who died rest in peace.

This issue features article on the status of BCG in leprosy control, use of GIS and spatial statistics to study the Hansen’s disease, use of Alpha 1 glycoprotein as a biomarker for monitoring the development of type 2 reational stage of leprosy. Along with this we have highlights from the TLMIRC meeting and superintendent’s conference. We are happy that the Director has given brief message for this newsletter.

Leprosy is not only about eradication but also supporting leprosy patients who have been physically disabled. It is equally important to make them socially and economically independent. This can be possible only on reduction of the discrimination and stigma.

31st January 2010 was marked by the 57th World Leprosy Day. This day was mainly focused on fighting the callousness towards people affected by leprosy. WHO’s Enhanced Global Strategy for further reducing the Disease Burden due to Leprosy 2011-2015 states that “constant efforts should be made to ensure that discriminating, derogatory or undignified reference to person affected by leprosy are avoided altogether.”

But why do we need a special day to focus on issues which are of prime importance. People with leprosy not only need treatment but also rehabilitation and acceptance in the society so that they can live with the same dignity as all of us do.

This coming Easter may the risen Lord bless everyone and give us the courage and wisdom to work towards the uplifting of the leprosy affected people and I hope there will be a day when no special day will be required to turn the spotlight on leprosy.

Dipti Ekka

MESSAGE

Research is considered by many to be an exclusive activity done in controlled environments by specially gifted people. Actually, it is simply trying to find answers to everyday questions that we come across in our work. It is our endeavor in TLM India to make research a part of our day-to-day activities, to sensitize people to the scope of research in our work and to build the capacity of our staff to ask strategic questions and find answers that make our work more effective.

It is my hope that the Research Resource Centre will contribute significantly towards this endeavor.

Dr. Sunil Anand
Director for India

BREAKING NEWS

- Azathioprine review meeting was held on the 3rd March 2010 with the co-ordinator of the Azathioprine project, Dr. Diana.
- National Leprosy survey undertaken by the Government of India being assisted by TLM. Pilot study to test the tools of data collection done in Bareilly.
- Farewell to our RRC staff Mr. Prabu N., Research fellow and Ms. Shilpa, Research Trainee. We wish them good luck for their future and may God bless all their endeavors.
NEWS FROM THE WORLD OF LEPROSY

Alpha-1-acid Glycoprotein as a putative biomarker for monitoring the development of type II reactional stage of Leprosy.

J Med Microbiol 2010 Jan 14
Gupta N, Shanker Marayan NP, Dharmalingam K.

Leprosy, a spectral disease manifested on the basis of host immune responses, is complicated by its reactional stages namely type I reversal reaction (RR) and type 2 erythema nodosum leprosum (ENL). These reactional stages are characterized by uncontrolled and aberrant immune responses. Biomarkers for reactional stages would aid in early diagnosis, efficient treatment, preventing neurological complications and prediction of predisposition to reactional stages. Comparative analysis of serum proteome of leprosy patients by two-dimensional electrophoresis (2-DE) followed by mass spectrometry showed differential expression of acute phase protein alpha-1-acid glycoprotein (AGP) [also called as orosomucoid]. AGP levels in untreated ENL cases were significantly higher when compared to lepromatous leprosy (LL) and healthy controls. The levels of AGP decreased post treatment with thalidomide to normal levels. AGP levels which were high in untreated ENL stage, decreased significantly 5 days and 21 days post treatment. Glycosylation analysis by 2DE showed differential expression of acidic glycoforms of AGP in untreated ENL cases. Changes in AGP concentration and differential expression of isoforms were correlatable with the inflammatory condition in ENL and also the treatment regimen. Thus this study showed AGP as an ENL specific biomarker and treatment indicator.

Renal involvement in leprosy: report of progression from diffuse proliferative to crescentic glomerulonephritis.


Renal involvement in leprosy has been reported rarely in the literature. Acute kidney injury in patients with leprosy is uncommon and may occur due to acute tubular necrosis, drug-induced interstitial nephritis and rarely crescentic glomerulonephritis. The latter with histologic confirmation of the diagnosis has been reported in very few cases of leprosy. A 25-year-old male, on therapy for multibacillary leprosy, was found to have deranged renal functions on evaluation for a history of nausea, vomiting, swelling and episode of haematuria. Kidney biopsy was performed twice over a period of 2 weeks, showing progression from diffuse proliferative glomerulonephritis to crescentic glomerulonephritis, pauci-immune in nature. The patient was treated aggressively with intravenous steroids, following which his renal functions stabilized. Crescentic glomerulonephritis, an extremely rare phenomenon in leprosy, should be considered in these patients presenting with features of acute kidney injury. Timely performed renal biopsy assists in accurate diagnosis and appropriate management of the patient, hence preserving renal parenchyma. Rapid progression from diffuse proliferative glomerulonephritis to crescentic glomerulonephritis in a patient with leprosy is described herein for the first time in the literature.

LIFE'S LIKE THAT

WHY DO I NEED TO CLEAN THE FISH? - DIDN'T YOU JUST TAKE THEM OUT OF THE WATER?

ANSWERS TO THE PREVIOUS CHRISTMAS QUIZ

- The colour of the berries on the mistletoe plant is white.
- The mistletoe grows on both the conifers and deciduous trees.
- It is false that only male reindeer have antlers.
- The music to silent night was originally written for a guitar.
Multiple Grade II Deformities in a Child: Tragic Effect of Leprosy.

Rao R, Balachandran C.

Stigma is almost synonymous with visible deformity and this is what makes leprosy a dreaded disease for the common man. Deformities in children are more distressing, due to the limitation of their physical, academic and social life. An 11-year-old female child was presented with trophic ulceration of right foot and triple nerve paralysis (i.e. total claw hand with wrist drop) of the left hand of 2 years duration. In addition, she had multiple hypopigmented hypoaesthetic patches on the extremities and buttocks. She was diagnosed as a case of borderline tuberculoid leprosy and was started on WHO MB MDT therapy. Leprosy in children is an indicator for disease prevalence in general population and occurrence of deformities points towards the delay in making the diagnosis and the stigma associated with the disease.

BCG vaccination and leprosy protection: review of current evidence and status of BCG in leprosy control.

Merle CS, Cunha SS, Rodrigues LC.

The Bacillus Calmette-Guérin (BCG) vaccine, initially developed to provide protection against TB, also protects against leprosy; and the magnitude of this effect varies. Previous meta-analyses did not provide a summary estimate of the efficacy due to the heterogeneity of the results. A meta-analysis of published data was conducted including recently published studies (up to June 2009) to determine the efficacy of BCG protection on leprosy and to investigate whether age at vaccination, clinical form, number of doses, type of study, the latitude of study area and year of publication influence the degree of efficacy and explain the variation. In the light of the results, more emphasis should be laid on the role of BCG vaccination in leprosy control and research.

Geographic information systems and applied spatial statistics are efficient tools to study Hansen’s disease (leprosy) and to determine areas of greater risk of disease.

Queiroz JW, Dias GH, Nobre ML, De Sousa Dias MC, Araújo SF, Barbosa JD, Bezerra da Trindade Neto P, Blackwell JM, Jeronimo SM.

Applied Spatial Statistics used in conjunction with geographic information systems (GIS) provide an efficient tool for the surveillance of diseases. Here, using these tools we analyzed the spatial distribution of Hansen’s disease in an endemic area in Brazil. A sample of 808 selected from a universe of 1,293 cases was geocoded in Mossoró, Rio Grande do Norte, Brazil. Hansen’s disease cases were not distributed randomly within the neighborhoods, with higher detection rates found in more populated districts. Cluster analysis identified two areas of high risk, one with a relative risk of 5.9 (P = 0.001) and the other 6.5 (P = 0.001). A significant relationship between the geographic distribution of disease and the social economic variables indicative of poverty was observed. Our study shows that the combination of GIS and spatial analysis can identify clustering of transmissible disease, such as Hansen’s disease, pointing to areas where intervention efforts can be targeted to control disease.

A Sunday school teacher was discussing the Ten Commandments with her five and six year olds. After explaining the commandment to "honor thy father and thy mother," she asked, "Is there a commandment that teaches us how to treat our brothers and sisters?"

Without missing a beat one little boy answered, "Thou shall not kill."
TLM INDIA RESEARCH COMMITTEE MEETING

The TLM India Research Committee (TLMRC) meeting was held on 5th Dec 2009 in ICMR. It was chaired by Dr. Katoch. Dr. Sunil Anand (Director, TLM), Dr Shyamala Anand, Dr Premal Das (DD Medical) and Dr. Joydeepa were welcomed as the new members of the committee. The agenda of the meeting was the review of the ongoing research projects like Carrels, Azathioprine and tapers study, PELSI and Nutritional deficiency and general Ill health in leprosy along with the Stanley Brown lab research projects. The new proposals presented were as follows:

- Methods to Enhance Voluntary Early Reporting (EVER) at PHC and other integrated settings.
- Development of community-based and patient driven methods to Preventing Defaulting from MDT & Steroid therapy in leprosy (PREDEMS study).
- A longitudinal cohort study to identify immunological biomarker for leprosy.

TLM PUBLICATIONS

Indian Journal of Leprosy 81 (3) July - September 2009

- Genotypic analysis of Mycobacterium leprae strains from different regions of India on the basis of rpoT-M Lavania, R Lal, G Joseph, J Darlong, SA Abraham, NK Nanda, RS Jadhav
- A study of steroid induced diabetes mellitus in leprosy-R Papang, AS John, S Abraham, PSSS Rao
- Awareness and attitudes towards leprosy in urban slums of Kolkata, India - AS John, PSSS Rao

SUPERINTENDENTS CONFERENCE IN CHANDIGARH

The Superintendents conference was held in Chandigarh on 22nd Feb 2010 where Dr. Sundar Rao, Head of Research gave a talk on the changing concepts in Research in TLM, India. The excerpts are as follows:

According to the older concepts research was considered as something done apart from the usual work, which was difficult requiring special environment taking lot of time involving lot of paper work. But the new and correct concept is that Research is an integral part of our work which can be done anywhere. It is necessary to enhance performance. Writing papers bringing out newer concepts is very important.

More emphasis should be put on OPERATIONAL RESEARCH (OR). OR needed in TLM institutions include:

- Cause of defaulters
- Drug related complication, neuritis
- Prognostic and preventive studies
- User friendly services, simplify physio assessments, reduce duration of inpatient stay
- Holistic services, family based health care
- Preventive medicine for common diseases / health problems in the area
- More effective IEC, counseling
- Regular customer satisfaction surveys
- Increasing more acceptable professional non / para professional services, reducing doctors time
- Integration issues
- Superimposed disease of leprosy patients
- Medical and social concerns of RFT patients
- Disability care and prevention

Research is an attitude that must catch on in TLM. Kindly write more papers and bring forward newer concepts. RRC is always ready to help in every way.

For any suggestions and assistance contact us at timrc@tlmindia.org.

AN EASTER WISH THAT GOD'S LOVE, HIS GRACE AND GOODNESS WILL FILL OUR HEART WITH SPECIAL JOY TODAY & ALL YEAR THROUGH. HAPPY EASTER!!