Volume 8, Number 3 · *February 2005*

ISID NEWS

An Official Publication of the International Society for Infectious Diseases

ISID NEWS

Editorial Staff
Amy Galblum
Jaylyn Olivo
Nancy Voynov
Paul Guttry

181 Longwood Avenue
Boston, MA 02115-5804 USA
Telephone: (617) 277-0551
1 (800) 779-8998
Fax: (617) 731-1541
E-mail: info@isid.org
http://www.isid.org

12th ICID in Lisbon

Planning is well under way for the 12th International Congress on Infectious Diseases to be held in Lisbon, Portugal from June 15-18, 2006. The scientific program will highlight many of the exciting and important issues in infectious diseases, and promises to be an interesting and educational meeting for all involved in the field. The tone for the Congress is set by the plenary talks, which provide participants with state-of-the art updates on topics of special interest.

Edward J. Feil

The program balances advances and interests across the diverse discipline of infectious diseases, from basic science discoveries to new understandings in the management of patients to the public health challenges of controlling infectious diseases on a global scale. These important areas are addressed in both plenary sessions and symposia. Dr. Edward Feil of the University of Bath is a leading investigator in the understanding of bacterial evolution. His work has led to insights that elucidate how bacteria develop resistance, change virulence and otherwise mutate in response to the environment. These changes may have important implications for the spread of pathogenic and resistant organisms around the world. Dr. Feil will be addressing this exciting area of recent discovery in a plenary session on bacterial microevolution, relevance to the clinician.

Antoni Torres

Despite the widespread availability of potent antibiotics, pneumonia remains a substantial cause of morbidity and mortality in both low resource and developed countries. The management of pneumonia continues to rapidly evolve, as does our knowledge of risk factors for acquiring disease. Dr. Antoni Torres of the Hospital Clínic de Barcelona has been on the forefront of investigating risk factors and treatments for pneumonia. His works intersects between basic science and clinic care, where he brings the advances for the laboratory to improve the management of patients. He will address the role of genetic factors in the development of severe, community-acquired pneumonia.

Acquired immunodeficiency syndrome (AIDS), tuberculosis and malaria are the world's most deadly infectious diseases. For approximately 5 years, the World Health Organization, UNAIDS, numerous governments and others have committed their resources to bringing these plagues under control. The challenges, political, economic, scientific, and logistical, are enormous, and success remains elusive. The task for coordinating this unprecedented effort to control infectious diseases on an international scope falls on the Global Fund to Fight AIDS, TB and Malaria.

continued on page 2

12th ICID in Lisbon *continued from page 1*

Bernhard Schwartländer

As Director for Strategic Information and Evaluation, Dr. Bernhard Schwartländer's role is to identify the successes and failures, and to determine how best to make the Global Fund more effective. He will discuss the issues around controlling the defining global infectious diseases of our time in a plenary lecture at the 12th ICID.

From the political challenges that affect the control of infectious diseases in the poorest regions of the world, to the new discoveries in the world's most advance laboratories, the scientific program of the 12th ICID will provide a wonderful opportunity for anyone involved in infectious diseases to learn about progress in our field. Colleagues and speakers from approximately 100 different countries will come together in the sun-drenched city of Lisbon in June, 2006 to share ideas, learn from each other, renew old friendships and create new ones. Join us in this beautiful, lively city on 7 hills for what will be an educational, enjoyable and unique Congress. ❖

ISID would like to acknowledge the following

COLLABORATING AND COOPERATING ORGANIZATIONS

12th International Congress on Infectious Diseases

Lisbon, Portugal • June 15–18, 2006

Collaborating Organizations:

Portuguese Society of Infectious Diseases (SPDI)

Spanish Society of Infectious Diseases and Clinical Microbiology (SEIMC)

Cooperating Organizations:

Association of Medical Microbiologists (United-Kingdom)

Croatian Society of Infectious Diseases

Danish Society for Clinical Microbiology (DSKM)

European Society of Clinical Microbiology and Infectious Diseases (ESCMID)

German Society of Infectious Diseases

Hellenic Society for Infectious Diseases

Norwegian Society of Medical Microbiology

Pan American Association of Infectious Diseases (API)

Swiss Society for Infectious Diseases

Turkish Microbiological Society (TMC)

BECOME

a Member of the ISID

www.isid.org

CATEGORIES OF ISID MEMBERSHIP

Regular Members:

Benefits include a 1-year subscription to the bimonthly *International Journal of Infectious Diseases (IJID)*, the *ISID NEWS*, a subscription to ProMED-mail, and discounts at the International Congress on Infectious Diseases. Annual dues: US $100.

Associate Members:

This level of membership is for colleagues in low resource areas. Benefits include a 1-year subscription to the bimonthly *International Journal of Infectious Diseases (IJID)* and the remaining benefits of regular membership. Annual dues: US $30.

Corresponding Membership:

Benefits include the *ISID NEWS* and a subscription to ProMED-mail. No dues.

Larry Madoff, MD
Editor, ProMED-mail

ProMED-mail Russian website debut:

ProMED-mail, with the support of the Nuclear Threat Initiative (NTI), has created a Russian language reporting web site that is freely accessible by anyone with access to the Internet. The web site includes basic information related to ProMED-mail and its Russian services, a listing of posts in Russian, access to an archive of Russian-language posts that is fully searchable in Russian and information on how to submit reports to ProMED-mail. The ProMED-RUS staff and their contact information is included in English on the Who's Who page of the main ProMED-mail web site. An e-mail service that distributes information on emerging and infectious disease outbreaks in Russian has been constructed with subscribers from 10 Newly Independent States enrolled to participate. Implementation of the ProMED-RUS web site, though complicated by the necessity of translation into a non-Roman alphabet, was accomplished working with Oracle, the software company that hosts the ProMED-mail website. The ProMED-RUS e-mail list will follow an approach successfully used by the Society for ProMED-ESP, the Society's Spanish language outbreak reporting system based in Latin America. Decisions about which posts appear in the ProMED-Rus email and website are made by Dr. Rakhmanova, the ProMED Newly Independent States moderator, along with the ProMED-mail editors. ❖

ProMED-mail Internet-a-thon Update

This year's ProMED-mail Internet-a-thon has thus far netted over $40,000. Our sincere thanks to all of our donors for their support of ProMED-mail.

For more information please see http://www.isid.org/ProMEDMail_Donations.shtml

ProMED-mail and Mekong Basin Disease Surveillance:

Associate Editor, Dr. Marjorie Pollack, has been spearheading the efforts of ProMED-mail in working with the Mekong Basin Disease Surveillance group. Her first foray for the project was a trip to Bangkok in September 2003 where she presented background on ProMED-mail to the MBDS surveillance group entitled "Mekong Basin Disease Surveillance—Developing a coordinated response to the unexpected—the role of an internet based early warning system A.K.A. 'The informal sector.'" The purpose of the trip was to meet with the MBDS group and further the planned implementation of the PRO/MBDS. She has made two subsequent trips to Bangkok, making presentations to the MBDS coordinators group and meeting with the head of surveillance activities and the MBDS coordinator to further develop the plans for the PRO/MBDS implementation and structure. She presented at a WHO EWARS (Early warning and response system) meeting including background examples of SARS and Avian Influenza emphasizing how the informal sector provided early alerts in both disease outbreaks. He most recent trip in October 2004 included a presentation to the Thai Ministry of Health Division of Epidemiology where there is interest in developing a PRO/THAI network. ❖

ISID Small Grants Program Final Report

by Preecha Leangaramgul and Sompong Sapsutthipas, M.Sc.
Medical Biotechnology Center, Department of Medical Sciences, Ministry of Public Health • Thailand

The neutralizing activity of the prime-boost regimen with rBCG-E12 and rDIs-E12 candidate vaccine

Genetic diversity in HIV-1 is well evidenced from the large number of different HIV-1 strain isolated around the world, which have been divided into three groups. The major group has been further divided into 10 nucleotide sequence defined subtypes. In Thailand, two major subtypes of HIV-1 are prevalent: clade B' (Thai subtype B) in intravenous drug abusers and clade E (Thai subtype A) in heterosexuals.

Most of the candidate vaccines currently in production are based on B clade virus which, although prevalent in the developed countries, is not the clade which is found in most parts of the developing countries. HIV-1 clade B-derived vaccine could hardly prevent infection of clade E virus.

Recombinant live attenuated *Mycobacterium bovis* BCG (BCG) vector-based vaccine targeted to HIV-1 and simian immunodeficiency virus were reported to induce both humoral and cellular immune responses in animal models against a variety of antigens such as Gag, Env and Nef. The BCG immunization is known to generate primary Th1 and delayed-type hypersensitivity responses that are considered to be suitable for a vaccine development for HIV-1.

Recombinant viral vectors are believed to have similarlity to live attenuated vaccines. The expression vector results in antigen processing through the major histocompatibility (MHC) class I pathway, which induces CD8+ CTL. Earlier studies have evaluated the safety and immunogenicity of recombinant vaccinia vector.

The objectives of this study are to construct the new candidate HIV-1 subtypeE vaccine, rBCG-E12 and rDIs-E12 and to develop a prime-boost strategy with the goal of eliciting broadly neutralizing antibodies against HIV-1 to provide sterilizing immunity for this virus.

In the previous study, a research group in NIID, Japan demonstrated that the V3 sequence of 12 amino acids of HIV-1 CRF01-AE (E12 epitope) fused with mycobacterial □-antigen was secreted from BCG cells (rBCG-E12) and could induce NT-Ab against CRF01-AE primary isolates. However, the NT-Ab titer in guinea pig was not enough to obtain protective efficacy. So, we attempted to boost the NT-Ab by rDIs expressing E12 epitope-□-antigen fusion protein (rDIs-E12).

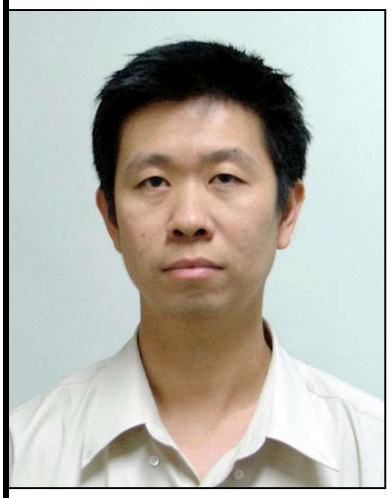
In this study, we have successfully constructed rDIs-E12 candidate vaccines. To clarify the enhancement of HIV-1 specific immune response by the consecutive vaccine regimen using these two vaccine constructs, we have examined E12-specific ELISPOT (cellular immunity) and antibody production in mice.

From the ELISPOT experiments, the prime-boost regimen enhanced effector cell response for alpha antigen but could not enhance that for E12 peptide. Although the V3 epitope in HIV subtype B contains CTL epitope restricted by mouse class I H2d, to our knowledge, there is no report on such CTL epitope in HIV CRF01-AE, and the lack of CTL induction should be ascribed to not matching class I-restriction in the HIV-1 subtype. However, the ELISPOT response against alpha antigen was significantly boosted by rDIs-E12, suggesting that the prime-boost regimen could have an effect for enhancing cellular immunity.

Regarding antibody response, rBCG-E12 immunization induced NT antibody production in guinea pigs and in mice (reported by NIID, Japan). However, the rDIs-E12 boosting could not enhance anti-E12 peptide antibody titer. Taking account of enhancing anti-alpha antigen antibody titer by the same regimen, the antigenicity of E12 peptide inserted in rDIs-E12 was not enough for enhancing anti-E12 antibody, implying that the conformation of E12-alpha antigen fusion protein in rDIs-E12 may be different from that in rBCG-E12.

This grant has contributed to our study for HIV vaccine development in Thailand. We will continuously study for better HIV vaccine development to produce NT antibody by construction and evaluation such prime-boost regimen for the other Env construct of both rBCG and rDIs vector systems. ❖

We are most grateful to the ISID for supporting this study that will help us in the development of an HIV vaccine in Thailand. We also thank to Dr. Kazuhiro Matsuo and his colleagues from NIID, Japan, for their advice and encouragement.



Preecha Leangaramgul

❖ ❖ ❖

Mr. Preecha Leangaramgul and Ms. Sompong Sapsutthipas received Master degrees of Science from the Department of Biotechnology, Faculty of Science, Mahidol University, Thailand. Now, they are working as researchers on the HIV Vaccine Project at Medical Biotechnology Center, Department of Medical Sciences, Ministry of Public Health. Previously, they worked in the JST AIDS Vaccine Project, a collaboration between the Thai and Japanese governments.

Sompong Sapsutthipas

Silvia Correa, PhD

❖ ❖ ❖

Dr. Correa is an Assistant Professor, Immunology, School of Chemistry, at the National University of Cordoba, Argentina and Adjoint Researcher at the National Council of Research (CONICET), Argentina.

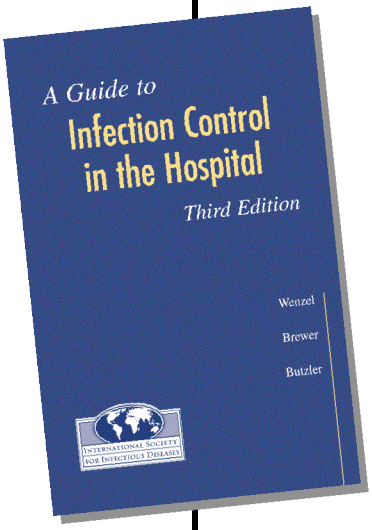
ISID Small Grants Program Final Report

by Silvia Correa, PhD • Argentina

Study of the mechanisms of weight loss, anorexia and hepatic injury in *Candida albicans* infection under stress conditions

Infection is associated with negative energy balance, with reduced food intake, weight loss, increased thermogenesis, and fever. Decreased caloric intake belongs to an endogenous protection mechanism that allows the organism to optimize the immune/inflammatory reactions. A complex network of pro-inflammatory cytokines released during infection, hormones, and low-molecular weight mediators coordinates in periphery multiple biochemical and metabolic changes that in turn provide an important negative feedback to cytokine production and toxicity. Leptin, the 16-kDa protein product of the *ob* gene, is an important regulator of the energy balance. Involved in the acute phase response, leptin increases sharply after infection and its production resembles that of pro-inflammatory cytokines. Interestingly, endogenous leptin plays a protective role against TNF induced lethality suggesting immunomodulatory and anti-inflammatory effects. We are working with a model of candidiasis and stress developed by intraperitoneal infection with 3 x 10^8 blastoconidia of *C. albicans* followed by chronic varied stress exposure during five days. Rats show an accelerated impairment of the innate immune response as well as sings of hepatic injury that include hyperplasia of Kuppfer cell, steatosis, increased β-oxidation of fatty acids, release of the enzymes glutamic oxaloacetic transaminase [SGOT] and glutamil transpeptidase [GGTP] and alterations in the lipid profile (cholesterol, triglycerides and lipoprotein levels). After 3 days of stress and infection rats have in serum reduced levels of IL-6, glucose and leptin but exhibit increments in corticosterone. In liver, the levels of the cytosolic signal transduction and activator of transcription protein (STAT), phosphorilated STAT-3 involved in signaling through receptor coupled gp 130, is also reduced. Our goal is to establish a possible mechanism by which the simultaneous exposure to *Candida albicans* infection and stress triggers the metabolic alterations. More specifically we are aimed to (i) Elucidate the contribution of leptin to the impairment of the innate control of the infection; (ii) Determine the involvement of corticosterone in the progression of liver injury; (iii) Characterize homeostatic mechanisms operating after infection but deficient following stress exposure. ❖

Investigators and PhD students involved in the project: Prof. Claudia Sotomayor, PhD; Lic. Carina Porporatto, Lic. Natalia Toscano, Dr. Roxana Cano, Prof. Hugo Cejas, MD and Prof. Silvia Correa, PhD.



A Guide to Infection Control in the Hospital Third Edition

The latest edition of *A Guide to Infection Control in the Hospital* is now available. This handy pocket-sized manual contains 42 chapters that explain key principles and guidelines for reducing the rate of nosocomial infections and practical measures intended to improve quality of care, minimize risk, save lives, and reduce costs.

To order a copy of the Guide, write to info@isid.org.

Jonothan Cohen
Editor-in-Chief
ijid@bsms.ac.uk
tel. +44 (0) 1273 877578
fax +44 (0) 1273 877576

International Journal of Infectious Diseases

The Society's Journal, *The International Journal of Infectious Diseases*, moves into its ninth volume in 2005, and continues to grow in stature. IJID is becoming an increasingly popular place to publish articles on a wide range of topics, embracing clinical practice, epidemiology, microbiology and virology, as well as topics in basic science. The number of new manuscripts received per month reached a new all time high in 2004, when we received almost 20 new manuscripts during June. The pressure on space means that the rejection rate has risen and is now running at approximately 50%. Although this means disappointment for some colleagues, it does mean that the quality of published papers is continuing to rise. Another key measure of the effectiveness of a Journal is the time it takes to accept a paper for publication. This has been one of the key priorities of the editorial team, and I am pleased to be able to report that the time to final acceptance of a manuscript has dropped to five months, having been nine months back in 2002. We are striving to push this down even further, and a major part of that strategy has been the implementation of our on line submission and review process, that got up and running during 2004. Although we have only had a few months of full experience with this system, it seems to be working well, and indeed currently we are able to reach a first decision within three months after submission via the on line route. One of the remaining pressures is the delay between acceptance and publication. Although this has come down considerably, it can still take up to a year before papers are published and this is something that the Society and the editorial office are discussing with the publishers Elsevier. We are optimistic that early in 2005 we will be able to move to a system where all accepted papers are published on line ahead of the print version. They will then be accessible via PubMed, and although there will still be some delay in getting the print version published the key objective of having the material accessible and referenced via the publishers, Science Direct website, will improve the situation considerably. The final piece of good news for the year, is that the Journal has been accepted by ISI for listing, and this will mean that we will eventually get an impact factor. Because of the way the system works this won't be allocated until 2007, but it is obviously an important stage in the development of the Journal.

Finally it is a pleasure to acknowledge the outstanding contribution of the "back room team", who are responsible for the production of the Journal, Cathi O'Hara from the publishers Elsevier, and in particular Jackie Parker, the Editorial Manager in the office who has been pivotal in turning the Journal into a professional, high quality publication. We look forward to receiving your papers next year and continuing to produce an interesting and diverse range of topics for publication. ❖

http://intl.elsevierhealth.com/journals/ijid

OTHER PROGRAM DEADLINES

ISID Scientific Exchange Fellowship:
March 1, 2005

Small Grants • Spring 2005:
April 1, 2005

HIV/AIDS Training Program:
October 15, 2005

SSI/ISID FELLOWSHIP

The Society is seeking applications for the **2005 SSI/ISID Fellowship**. This Fellowship is sponsored jointly with the Swiss Society for Infectious Diseases to support infectious disease physicians and scientists from developing and middle income countries through multidisciplinary clinical and laboratory training at select biomedical institutions in Switzerland. Opportunities for training and research in a variety of areas ranging from basic studies of the mechanism of disease to studies in public health, epidemiology, diagnostics, therapeutics or vaccine development, are available through this program.

The term of the Fellowship is for one year with a financial stipend of up to 36,000 SF per year (approximately $21,000 USD) given to Fellows to cover travel costs and living expenses. Language skills of French or German are necessary. The deadline for application is April 1, 2005 and more information is available on our website at www.isid.org or by writing to info@isid.org.

For more information on all of the ISID Programs please see http:// www.isid.org