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## \*\*\*Contents

### MINIREVIEW: Detecting Recent HIV-1 Infection

**OPINION:** Condom Compliance  
**OPINION:** Could 'Ironing Out' Slow Down HIV Disease Progression?

### Research Highlights

### Clinical Trials <sup>News</sup>

### Top Review Articles

### HIV/STD Guidelines <sup>New</sup>

### Funding Opportunities

### Upcoming Scientific Events

### YRG CARE Academic Events

### YRG CARE Forthcoming Events

### YRG CARE Past Events

### YRG CARE Recent Publications



## From the Director's Desk

Greetings from YRG CARE!

As a silver lining to the grim battle against HIV, it is heartening to read the outcome of the Thai Phase III vaccine trial RV144 that the vaccine has modest effect in preventing HIV infection, thereby offering a glimmer of hope and promise for newer prevention strategies. This issue publishes an interesting mini-review article on the diagnosis of recent HIV infections and also opinions on condom compliance, and the possible deleterious role of iron in HIV disease progression. For researchers and allied professionals we are pleased to introduce from this issue onwards, a new column that enlists leading review articles in the field of HIV and associated co-infections.

The 2nd Annual Science Symposium 2009 was a huge success achieving record attendance and provided a platform for aspiring researchers and also students to interact with experts. I am delighted to invite you to the Chennai ART Symposium (CART 2010) organised by YRG CARE on the 9th and 10th of January 2010 in Chennai. Several experts from International and National Institutes will be delivering current updates on the management of HIV disease. Preceding this event will be Bioethics Symposium (TYBS 2010) on the 8th of January 2010. Please refer to the announcements in this issue for more information.

The theme for World AIDS Day 2009 is "Universal access and human rights", and let us pledge to work towards a world that has access for all to HIV prevention, treatment, care and support as a critical part of human rights.

I hope that you find this issue useful and will help us with your feedback.

Sincerely,

**Prof. Suniti Solomon, MD, FNAMS, DMS (Brown University)**  
Editor-in-Chief

## MINIREVIEW

### Diagnosis

## Detecting Recent HIV-1 Infection

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HIV diagnostic assays detect presence of HIV antibodies but do not provide information on the duration of infection. On an average, people can survive for about 8 to 10 years or longer after infection in the absence of treatment; therefore the infection can be very recent or may have been acquired long ago. Would it be useful to know the duration of infection? If yes, how can we do it? There are several possible reasons why it would be useful to know how long the person may have been infected [Janssen, *et al.*, 2001; Janssen, *et al.*, 1998; McDougal, *et al.*, 2005; Thomas, *et al.*, 1996].

### Importance.

At the infected individual's level, knowing HIV serostatus, at the earliest, may help in early care and treatment options [Blankson, *et al.*, 2005]. Recent work has suggested that early control of HIV viral load may result in improved clinical outcome instead of waiting until the CD4 cells have declined below 350 or 200 as per treatment guidelines [Hobbs & Essajee, 2009]. A recently infected person may be more likely to transmit the virus to others due to high viral load and continued high-risk behaviour [Pilcher, *et al.*, 2005]. Therefore, appropriate counselling of recently infected individuals and partner notification can help in reducing transmission of HIV, especially in high-risk population. Spread of drug resistant (DR) viruses can be best monitored by genotyping viruses from newly infected persons [Sirivichayakul, *et al.*, 2008]. Increased levels of resistant viruses in recently infected but treatment-naïve people may indicate that resistant viruses are gaining dominance in the population and may require re-evaluation of treatment strategies. World Health Organization (WHO) recommendations for DR surveillance include genotyping in younger people as an indirect proxy for recent infection. This DR surveillance has been implemented in many countries as a result of expanded availability of treatment in the last few years. Similarly, spread of different subtypes or recombinant forms can be monitored by sub-typing HIV from recently infected individuals. This front-end monitoring can provide valuable information about fast spreading strains before they become dominant. From the public health perspective, measuring the rate of new infection (i.e. incidence) can be very useful since it provides information on the current state of transmission dynamics [McDougal, *et al.*, 2005; Parekh & McDougal, 2005]. Routine HIV surveillance activity provides information on prevalence of HIV infection in the population. Prevalence is accumulative HIV burden; although useful, does not provide information on the current rate of new infections. Incidence measurements can help identify populations or subpopulations with the highest rate of infection, target resources to most vulnerable populations and monitor effectiveness of prevention efforts.

### Methodology.

New diagnosis does not necessarily mean new infection. Often, infection in the younger age group is believed to be relatively recent (see above). Although this is true in relative terms, use of a biologic marker would significantly increase predictive value of detecting recent infection. Detection of HIV RNA/DNA or p24 prior to development of HIV antibody (acute infection) provides a definitive way of detecting recent infection. However, the probability of catching people in this short time period (~2 weeks) is not high and requires testing of large number of



negative people to find few acute infections [Pilcher, *et al.*, 2005]. Moreover, the technologies to test for nucleic acids are complex, expensive and not practical in many settings. Significant efforts have been made to develop laboratory tests to identify recently infected people after HIV-1 seroconversion [Parekh & McDougal, 2005]. The approaches include modification of a commercial assay, modified interpretation of an assay or an *in-house* assay developed specifically for this purpose. These methods rely on maturation of humoral response and measure relative titer or levels of HIV antibody (e.g. less-sensitive assays or the BED assay) [Janssen, *et al.*, 1998; Parekh, *et al.*, 2002; Rawal, *et al.*, 2003], antibody avidity or binding strength [Suligoi, *et al.*, 2002; Thomas, *et al.*, 1996; Wei, 2009], antigen-specific antibody [Barin, *et al.*, 2005], isotype-specific antibody [Wilson *et al.*, 2004] or the banding pattern on confirmatory assay [Schupbach, *et al.*, 2007]. In addition, rapid assays have been modified to detect recent HIV seroconversion [Constantine, *et al.*, 2003; Kshatriya, *et al.*, 2008; Soroka, *et al.*, 2005]. Recently, we have developed novel antibody avidity assays (avidity index-EIA and limiting-antigen avidity assay) specifically designed to detect recent HIV seroconversion [Wei, 2009].

#### Surveillance versus Diagnosis.

It is important to note that incidence surveillance, at the population level, requires information on the mean recency period (or window period), which is the average time period spent below a threshold cut-off defined by the assay, a unique characteristic of each assay. By definition, about 50 - 60% of people may cross the threshold cut-off in this time period; the rest will remain below the cut-off beyond the mean recency period. For individual diagnosis of recent infection, a much longer recency period should be used such that at least 95% of people will cross the threshold cut-off. This time period (diagnostic recency period) could be twice as long as the mean recency period. In addition, the accuracy of diagnosing recent infection may vary at the individual level due to variability of immune response among individuals. Therefore, the recent/long-term classification may not be correct 100% of the time. However, two or more incidence assays can be combined in an algorithm to increase predictive value of recent infection, similar to the HIV diagnostic algorithm. This approach will not only improve accuracy of population incidence estimates but may allow use of these technologies at the individual level for additional information (subtype or DR transmission) which may have public health as well as individual benefits.

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**OPINION**  
HIV Prevention

## Condom Compliance

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One is commonly asked by a patient, whether they are knowledgeable in condom use or not, if it is an excellent method to prevent infection with HIV and many STDs. Indeed, if the condom is CE certified, it is stated that its

effectiveness increases to 96 - 99%. This is a bit more than the 94% quote in some papers, particularly from African studies. Presumably the response rate and choice of response influenced the results. Male patients may be concerned with what causes the failure of a condom especially from breaks, tears, slipping off, taking off because of no sensation, and/or self-infection when rolling off incorrectly? One could theoretically muse if it is likely that a woman's sexual fluids will infect a man in the groin or pubic, hairy area, more so, say if s/he had a fungal infection or warts there? One could go on to consider possible infection via infected hair follicles. Although more research needs to be conducted in these areas, what is more important though is if a condom has been used consistently every single time before genital and/or oral contact and if it was used correctly. Many people come into local STD clinics terribly worried even though they have used a condom. Psychological problems associated with contradictions during and after a sex act should be considered.

A couple may decide to absolutely trust each other in a relationship, partnership or marriage, or when a couple are trying for children, as condom use is not practiced much if at all. How can one therefore be sure that even if one is HIV negative that the other isn't cheating, especially given the window period of may STDs including HIV? Therefore, it seems that total abstinence is the only guarantee. But as humans have an enormous sexual drive, this is impossible. Therefore a condom has to be used. One wouldn't hesitate to use gloves when handling a laboratory blood sample. So why do people not want to use a condom? It seems that selfish behaviour is much to blame in either both or one of the partners. One could envisage trips to the STD clinic over a number of sessions of three months duration, and once one is sure that there will be no cheating, and one is willing to risk their life, then one can engage in no condom use.

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**OPINION**  
Pathogenesis

## Could 'Ironing Out' Slow Down HIV Disease Progression?

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#### How, and why is iron a necessary evil?

Iron is an important component essential for all forms of life, including humans, most bacterial species and plants. Iron has the unique ability to serve as both an electron donor and acceptor. Iron is also the most abundant redox active metal in humans. Humans use iron in the haemoglobin of erythrocytes to transport oxygen from the lungs to the tissues and to export carbon dioxide back to the lungs. Iron is also an essential component of myoglobin to store and diffuse oxygen in muscle cells. However, iron can be potentially toxic element as well. Its ability to donate and accept electrons means that if iron is free within the cell, it can catalyze the conversion of hydrogen peroxide into free radicals that are known to cause damage to a wide variety of cellular structures, and therefore, could be cytopathic. To prevent this damage, all life forms that use iron bind the iron atoms to proteins, which allow the cells to use the benefits of iron, at the same time limiting its cytopathicity [Andrews, 1999].

The most important group of iron-binding proteins contains the haeme molecules, all of which contain iron at their centres. Humans and most bacteria use variants of haeme to carry out redox reactions and electron transport processes. These reactions and processes are required for oxidative phosphorylation, a principal source of energy for human cells; without which, our cells could hardly survive. Although iron is an essential element for human life, humans have no physiological regulatory mechanism for excreting iron and therefore, dietary iron is actively absorbed but minimally excreted [Dunn, *et al.*, 2006]. It also appears that body iron stores of apparently healthy adults, rise with age reaching toxic concentrations [Sullivan, 1981; 2001; 2004; Zacharski, *et al.*, 2000; 2000; 2007;



Brewer, 2007]. Most humans prevent iron overload solely by regulating iron absorption. Those who cannot regulate absorption well enough get disorders of iron overload. In these diseases, the toxicity of iron starts overwhelming the body's ability to bind and store it. There is mounting number of evidence to show that cardiovascular disease and diabetes could be associated with increased body iron stores [Millan, *et al.*, 2007; Luchsinger, *et al.*, 2007; Jiang *et al.*, 2004; Forouhi, *et al.*, 2007; Jehn, *et al.*, 2007; Swaminathan, *et al.*, 2007]. Men who have high levels of iron are at an increased risk for heart attack [Salonen, *et al.*, 1992] and possibly Alzheimer's disease [Dwyer, *et al.*, 2009]. Haemochromatosis (HH) is a hereditary autosomal recessive disorder resulting from mutation of the HFE gene leading to increased absorption of iron from the gut [Batts, 2007]. Research by several experts on iron metabolism has suggested that iron levels which correlate with a serum ferritin value  $\geq 100$  and a transferrin saturation value  $\geq 35\%$  may be a predisposing factor for the development for cancer, heart attack, and other diseases [Laufer, 1991; Herbert, 1993].

#### **Iron hijacking keeps 'bacteria in the pink of health'**

For a successful infection phenomenon a pathogen needs to enter and establish itself inside our body. Of the several elements required by infectious agents to ensure a successful infection phenomenon iron plays a crucial role. If infectious agents are to survive, they must find means to 'hijack' iron from the surrounding environment. Bacterial pathogens obtain iron in many ways, including the release of iron-binding molecules called siderophores and then reabsorbing these siderophores to recover iron, or scavenging iron from haemoglobin and transferrin. This means that iron-deprived bacteria reproduce more slowly and therefore lessening body iron levels appear to be an important defense against bacterial infection.

People with increased amounts of iron, like people with haemochromatosis, are more susceptible to bacterial infection. However, the natural entry points for infectious agents are free from iron or are patrolled by lactoferrin, a group of innate immune proteins that lock up iron and prevent them from being used by infectious bacterial agents immediately upon entry. Almost all the body fluids, starting from saliva to mucus are believed to be rich in iron-chelators [Weinberg, 2001]. Ancient literatures suggest that in olden days people used to paint wounds with egg-white as a means to protect from infection. It is to be noted that egg-whites are rich with chelators like ovoferrin, which locks up iron availability features to pathogenic wound inhabiting gram-positive bacteria.

The link between iron and infection also has best ways of describing disease prevention in neonates. Breast milk is suggestively rich in lactoferrin that paints the gut mucosa of neonates and binds with iron to prevent bacteria from feeding on it. Even if pathogenic bacteria successfully gains entry into the human system, our immune system kicks to a high gear and mounts an acute phase protein response, which ultimately locks up the iron stores for access by the infectious invader. Interesting newer research has shown that the more iron in a given population, the more that population is vulnerable to intracellular pathogens [Reizenstein, 1991; Wang *et al.*, 2008].

#### **Cancerous crab-grasses survive inside iron-stores.**

Iron reportedly acts as a cancer-inducing agent by producing free radicals, and by feeding cancer cells. Iron increases the production of free radicals, production of free radicals is largely proportionate to the level of iron [Herbert, *et al.*, 1994]. Free radicals needless to say are oxygen-containing molecules which damage (oxidize) the DNA of cells. Because DNA controls the activities of the cell and once the DNA is damaged, the cell runs 'out of control'. Conceptually, all cancer cells grow uncontrollably and are in a state of 'out of control'. These cancer cells replicate rapidly and eventually metastases into the surrounding tissues and organs. Because cancer cells grow uncontrollably, they consume and exhaust the huge chunk of nutrients that are otherwise available to the host and thereby starve the host. One of the essential elements cancer cells need most is iron.

It is widely believed that iron may be a "rate-limiting" nutrient for cellular transformation [Stevens, *et al.*, 1988]. Recent research has shown that people with high levels of iron have an increased risk for developing neoplastic growth [Stevens, *et al.*, 1988; 1994].

#### **Hepcidin and iron metabolism.**

Hepcidin is an iron regulatory hormone synthesized exclusively by the liver. Ferroportin is an iron export protein located on the surface of enterocytes, macrophages and hepatocytes, the main cells responsible for the release of iron into the extracellular compartment by transferring [Rossi, 2005;

Pietrangelo, 2004] and also possibly depriving the cells of intracellular iron in the even of intracellular bacterial infection. The exit of iron from macrophages is controlled by ferroportin. Hepatocytes sense body iron levels and down-regulate hepcidin, which then interacts with ferroportin to modulate the release of intracellular iron. Therefore, the physiological response to iron levels would be the hepcidin mediated blockade of iron absorption (enterocyte), recycling (macrophage) and storage (hepatocyte). However, the release of hepcidin is also rapidly mediated by gram negative bacterial lipopolysaccharide (LPS) and cytokine release, especially IL-6. The hepcidin gene is also over-expressed in response to inflammation. Cytokine mediated induction of hepcidin caused by inflammation or infection is now thought to be responsible for the anaemia of chronic disease, where iron is retained by the key cells that normally provide it, namely enterocytes, macrophages and hepatocytes.

#### **How 'ironing out' could prolong HIV disease progression? Seems counter-intuitive, but interesting!**

Opportunistic infections (OIs) and neoplasms are the major cause of death from HIV/AIDS. HIV infection is characterized by a flunk in cellular immunity that contributes to the onset and establishment of OIs/neoplasms subsequently leading to rapid disease progression. Shortly after HIV infection, CD4 cells fail to respond to antigens and pathogens that are mostly intracellular. OIs in HIV disease are largely controlled by macrophages that produce many protective proinflammatory cytokines. These OIs and neoplasms as already stated rely on intracellular iron inside macrophages and other immune cells and support rapid HIV replication to accelerate HIV disease progression. Although highly active antiretroviral therapy (HAART) has improved the quality of life and longevity by preserving immune functions, the regimens cause potentially lethal side-effects, drug-drug interactions and drug resistance. This necessitates measures to develop newer strategies to prolong HIV disease progression. Macrophages are important in killing infectious agents, the former at the site of entry and the later inside the bloodstream.

In healthy persons, macrophages have plenty of iron and intracellular pathogens use the iron to multiply. The ability to access iron makes some intracellular infections deadly. Macrophages that lack iron are active in preventing intracellular infections largely presumed to be due to the non-conductive environment offered to intracellular pathogens that are in need of iron for survival [Wang, *et al.*, 2008]. Therefore, down-regulation of hepcidin gene synthesis results in increased iron release, which not only could reduce the chances of anaemia but also deprives cells of intracellular iron giving hardly any chance for intracellular survival of pathogens. Also, as described above cancer cells need iron for survival and when hepcidin is down-regulated intracellular iron is released into the plasma and therefore cellular transformation requiring intracellular iron stores is blocked. It is to be remembered that cancer shares the cause of increased mortality rates with OIs in HIV disease.

#### **Deplete body iron by frequent blood donation.**

Depleting iron stores by phlebotomy (blood-letting) is an efficient means for reducing body iron although this could be impracticable in HIV/AIDS. Studies have shown that frequent blood donation could be associated with reduced risk for cardiovascular events [Salonen, *et al.*, 1998; Meyers, *et al.*, 2002].

#### **Conclusions.**

The views described herein have been assumed mainly to prevent the onset of intracellular OIs and neoplasms, the major causes of mortality due to HIV/AIDS. Although regular blood-letting in terminal HIV disease cannot be a reality, this however, can be limited to subjects with relatively good CD4+ absolute counts. Down-regulating hepcidin can indeed be studied, which could effectively deprive pathogens of iron within macrophages as well as take away transformed cells of metabolizing iron for survival in terminal AIDS. Although the proposed idea might be general and might never be specific to HIV/AIDS, this however could be specifically applied to HIV/AIDS for investigations [Shankar, *et al.*, 2009].

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## RESEARCH HIGHLIGHTS

### A Novel Lab Model to Evaluate Microbicide!

The lack of biomarkers that are predictive of safety is a critical gap in the development of microbicides. Recently new experiments designed by Mesquita and others from the Albert Einstein College of Medicine, New York, to evaluate the predictive value of *in vitro* models of microbicide safety have shown to provide a more stringent preclinical assessment of microbicide safety and could prove to be more predictive of the clinical outcomes. They developed a model that mimicked the genital tract environment. It was composed of two chambers separated by a barrier of cultured human cells that form tight junctions. After treating the epithelial cells with different microbicides, the researchers tested the barrier's permeability to HIV by placing HIV in the upper chamber, T cells in the lower chamber, and then monitoring the infection of the T cells over time. When the epithelial barrier was treated with placebo, HIV was unable to pass through to the lower chamber leaving the T cells uninfected. [Mesquita PM, et al. *J Infect Dis* 2009; 200: 599 - 608. © 2009 The University of Chicago Press, USA].

### Future Gene Therapy to Control HIV Disease!

The molecule, known as Lysyl-tRNA synthetase (LysRS) is one of the most ancient molecules in the cell, where it has long been recognized for its contribution in the translation of the information contained in RNA into the amino acids that make up proteins. Amino acids are organic compounds, which are present in and are vital to every living cell. Researchers from the Hebrew University, Jerusalem, Israel have discovered that LysRS plays an important additional role as a central regulator controlling expression of various genes. In this additional role, LysRS ceases its previous function at a certain point and participates in a chain of events that causes the freeing of inhibitors that prevent expression of certain genes. [Nurit YC, et al. *Mol Cell* 2009; 34: 603 – 11. © 2009 Elsevier, USA].

### Gorilla Too as Sources of HIV!

Plantier and colleagues from the University of Rouen, France and the University of Manchester, UK have identified a new form of HIV in Cameroon. This new virus has been closely related to the previously known gorilla SIV. This gorilla strain showed no evidence of recombination with other HIV strains or with chimpanzee SIV and seems to be the prototype of a new HIV-1 lineage that is distinct from HIV-1 groups M, N and O. Therefore, it was proposed to designate it as HIV-1 group P. These findings indicate that gorillas in addition to chimpanzees are likely sources of HIV. [Plantier JC, et al. *Nat Med* 2009; 15: 871 – 2. © 2009 Nature publishers, USA].

### Low-Cost HIV Viral Load Test is as Reliable as Standard!

Researchers from the Burnet Institute, Melbourne, have reported the evaluation of versions 2 and 3 of the ExaVir Load assay. This HIV viral load kit quantifies the activity of the enzyme reverse transcriptase (RT) as a marker of retroviral replication. They found that the overall sensitivity of the ExaVir assay was lower than that of the Roche COBAS assay. However, it achieved the sensitivity of the COBAS assay for viral loads over 1000 copies/mL and matched it for viral loads over 10,000 copies/mL. It detected 94% of all samples with viral loads over 1000 copies/mL. The main difference between the version 2 and 3 assays is faster throughput – version 3 takes about 90 minutes to produce a result compared with three hours for version 2. Additional advantage of this cost-effective assay is able to detect novel subtypes which may be missed by RNA assays and does not require expensive sophisticated equipments. [Greengrass et al. *J Acquir Immune Defic Syndr* 2009; 52: 387 – 90. © 2009 Lippincott Williams & Wilkins, USA].

### MicroRNAs Control HIV Replication!

Rana and colleagues from the Burnham Institute for Medical Research, USA have discovered the existence of specific microRNAs, which could effectively reduce the magnitude of HIV replication and infectivity in human T-cells. These microRNA miR29 have been found to suppress the translation of HIV-1 genome by transporting the viral mRNA to processing-bodies (P-bodies), where they are stored or destroyed, which in turn could lead to a drastic reduction of viral replication and infectivity. The study also has suggested that HIV may have co-opted this cellular defense mechanism to help the virus efficiently evade the immune system and antiviral drugs. [Nathans et al, *Mol Cell* 2009; 34: 696 - 709. © 2009 Elsevier, USA].

### Newer Approach to Target HIV Hidden Reservoir

The latent viral reservoir in resting CD4+ T cells widely believed to be the major barrier to successful virus eradication. Elimination of this reservoir requires reactivation of the latent virus. Robert Siliciano and colleagues at Johns Hopkins University School of Medicine have recently shown that when human primary CD4+ T cells were transduced with the cell survival molecule Bcl-2, the cells were shown to recapitulate the quiescent state of resting CD4+ T cells *in vivo*. Using this model system, they screened small-molecule libraries and identified a compound called 5-hydroxynaphthalene-1, 4-dione (5HN) that reactivated latent HIV-1 without inducing global T-cell activation. The study demonstrates the utility of this *in vitro* model for finding strategies to eradicate HIV-1 infection. [Yang HC, et al. *J Clin Invest* 2009; 119: 3473 - 86. © 2009 Nature Press, USA].

### Scientists Follow Suit: Yet another Set of Broadly Neutralizing Antibodies Found

Breadth of neutralization is important because any effective HIV vaccine must provide protection from a diverse range of the most prevalent types of HIV circulating worldwide. A team of researchers from IAVI Neutralizing Antibody Center and AIDS Vaccine Design and Development Laboratory in USA, identified new broadly neutralizing antibodies (bNAbs) - PG9 and PG16 from an African patient and this will help to design a better vaccine in the future. They have examined neutralization breadth in the sera of about 1800 HIV-1-infected individuals, primarily infected with non-clade B viruses, and have selected donors for monoclonal antibody (mAb) generation. The scientists used a high-throughput neutralization screen of antibody-containing cell culture supernatants from about 30,000 activated memory B cells from a clade A infected African donor to isolate two potent mAbs that target a broadly neutralizing epitope. The epitope was preferentially expressed on trimeric envelope protein and spans conserved regions of variable loops of the gp120 subunit. The results provide a framework for the design of new vaccine candidates for the elicitation of



## Why HIV Disease Progresses Faster in Women than in Men with Same Viral Load?

One of the long standing mysteries of HIV disease is why women usually develop lower viral levels than men following acute HIV-1 infection but progress faster to AIDS than men with similar viral loads. Now a research team, Meier *et al* from the Ragon Institute of Massachusetts General Hospital and Harvard University, has found that a receptor molecule involved in the first-line recognition of HIV-1 responds to the virus differently in women, leading to subsequent differences in chronic T cell activation, a known predictor of disease progression. Also the researchers had shown that plasmacytoid dendritic cells (pDCs) derived from women produce markedly more IFN- $\gamma$  in response to HIV-1-encoded toll-like receptor 7 (TLR7) ligands than pDCs derived from men, resulting in stronger secondary activation of CD8<sup>+</sup> T cells. In line with these *in vitro* studies, treatment-naïve women chronically infected with HIV-1 had considerably higher levels of CD8<sup>+</sup> T cell activation than men after adjusting for viral load. These results show that sex differences in TLR-mediated activation of pDCs may account for higher immune activation in women compared to men at a given HIV-1 viral load and provide a mechanism by which the same level of viral replication might result in faster HIV-1 disease progression in women as compared to men. [Meier A, et al. *Nat Med* 2009; 15: 955 - 9. © 2009 Nature Publishers, USA].

### CLINICAL TRIAL News

## Phase I Clinical Trial with a New Th-Epitope-Based HIV Vaccine Shows Encouraging Results

NIH sponsored Phase I human vaccine trial of a novel polypeptide vaccine of HIV T helper epitopes (EP-1043) and a DNA vaccine of HIV CTL epitopes was conducted in 84 healthy adult volunteers at US. The vaccine immunogenicity was assessed by an intracellular cytokine staining assay for IL-2, IL-4, TNF- $\alpha$  and IFN- $\gamma$ . Thirty two out of 47 (68%) of subjects had a positive CD4<sup>+</sup> T response after receiving two vaccinations of the polypeptide vaccine. The responding CD4<sup>+</sup> T cells made various combinations of IL-2, IL-4, IFN- $\gamma$ , and TNF- $\alpha$ . The study demonstrated that the EP-1043 vaccine is safe, well-tolerated, and immunogenic. The vaccine also elicited robust poly-functional T helper responses in a majority of human volunteers after just two vaccinations. [Jin X et al. *Vaccine* 2009; 27: 7080 - 6. © 2009 Elsevier Publishers, USA]

## Short-Course AZT plus 3TC Reduces Emergent NNRTI-Resistant Mutations in Mothers and Infants: TOPS Study

The Treatment Options Preservation Study (TOPS), an open-label, randomized trial examined the efficacy of short-course AZT and 3TC with sdNVP in reducing NNRTI resistance in mothers, and as a secondary objective, in infants, in a setting where sdNVP was standard-of-care. sdNVP alone, administered at the onset of labour and to the infant, was compared to sdNVP with AZT plus 3TC, given as CBV for 4 or 7 days, initiated simultaneously with sdNVP in labour; their newborns received the same regimens. Based on the results, TOPS has concluded that a short course of AZT plus 3TC, supplementing maternal and infant sdNVP, reduces emergent NNRTI resistance mutations in both mothers and their infants. [James AM et al. *PLoS Med.* 2009; 10: e1000172. © 2009 Public Library of Science, USA]

### SPECIAL NEWS

## HIV Vaccine Shows Modest Efficacy in Thailand Phase III Trial

An investigational vaccine regimen has been shown to be well-tolerated and to have a modest effect in preventing HIV infection in a larger clinical trial conducted in Thailand. This Thai Phase III HIV vaccine study, also known as RV144, initiated in the year 2003. This placebo-controlled trial tested the safety and effectiveness of a prime-boost regimen of two vaccines: ALVAC-HIV vaccine (the primer dose), a modified canary pox vaccine developed by Sanofi Pasteur, based in Lyon, France, and AIDSVAX B/E vaccine (the booster dose), a glycoprotein 120 vaccine developed by Vaxgen Inc. These vaccines are based on subtype B and E HIV strains that commonly circulate in Thailand. The trial, conducted in the Rayong and Chon Buri provinces of Thailand, enrolled 16,402 men and women ages 18 to 30 years old at various levels of risk for HIV infection. Study participants received the ALVAC HIV vaccine or placebo at enrollment and again after 1 month, 3 months, and 6 months. The AIDSVAX B/E vaccine or placebo was given to participants at 3 and 6 months. Participants were tested for HIV infection every 6 months for 3 years. During each clinic visit, they were given risk-reduction counseling for HIV. The final analysis showed that 74 of 8,198 placebo recipients became infected with HIV compared with 51 of 8,197 participants who received the vaccine regimen. This vaccine reduced HIV infection in a community-based population by 31.2% compared with placebo. This level of effectiveness in preventing HIV infection was statistically significant.

Source: [www3.niaid.nih.gov/news/newsreleases/2009/ThaiVaxStudy.htm](http://www3.niaid.nih.gov/news/newsreleases/2009/ThaiVaxStudy.htm)

### Top REVIEW ARTICLES

**Hepatitis B vaccination in HIV-infected adults: current evidence, recommendations and practical considerations.** Kim HN, et al. *Int J STD AIDS*. 2009; 20: 595 - 600. eMail: [hyangkim@u.washington.edu](mailto:hyangkim@u.washington.edu)

**Management of hepatitis C virus infection in HIV/HCV co-infected patients: clinical review.** Singal AK, et al. *World J Gastroenterol* 2009; 14: 3713 - 24. eMail: [aksingal@utmb.edu](mailto:aksingal@utmb.edu)

**Virological monitoring and resistance to first-line HAART in adults infected with HIV-1 treated under WHO guidelines: a systematic review and meta-analysis.** Gupta RK, et al. *Lancet Infect Dis* 2009; 9: 409 - 17. eMail: [rgupta2@nhs.net](mailto:rgupta2@nhs.net)

**Using HIV resistance tests in clinical practice.** Taylor S, et al. *J Antimicrob Chemother* 2009; 64: 218 - 22. eMail: [steve.taylor@heartofengland.nhs.uk](mailto:steve.taylor@heartofengland.nhs.uk)

**HIV protease inhibitors: recent clinical trials and recommendations on use.** Fernández-Montero JV, et al. *Expert Opin Pharmacother* 2009;10:1615 - 29. eMail: [jvicfer@gmail.com](mailto:jvicfer@gmail.com)

**Low-level viremia in HIV-1 infection: consequences and implications for switching to a new regimen.** Cohen C. *HIV Clin Trials* 2009; 10: 116 - 24. eMail: [CCohen@crine.org](mailto:CCohen@crine.org)

**Successes, challenges, and limitations of current antiretroviral therapy in low-income and middle-income countries.** Bartlett JA, et al. *Lancet Infect Dis* 2009; 9: 637 - 49. eMail: [bartl004@mc.duke.edu](mailto:bartl004@mc.duke.edu)

**Obstacles and proposed solutions to effective antiretroviral therapy in resource-limited settings.** Bartlett JA, et al. *J Int Assoc Physicians AIDS Care (Chic Ill)*. 2009; 8: 253 - 68. eMail: [bartl004@mc.duke.edu](mailto:bartl004@mc.duke.edu)

**Emerging of HIV drug resistance: epidemiology, diagnosis, treatment and prevention.** Kierliburanakul S, et al. *Curr HIV Res* 2009; 7: 273 - 8. eMail: [rasal@mahidol.ac.th](mailto:rasal@mahidol.ac.th)

**Management of paediatric HIV-1 resistance.** Gupta RK, et al. *Curr Opin Infect Dis* 2009; 22: 256 - 63. eMail: [rgupta2@nhs.net](mailto:rgupta2@nhs.net)

**Impact of metabolic complications on antiretroviral treatment adherence: clinical and public health implications.** Nachega JB, et al. *Curr HIV/AIDS Rep* 2009; 6: 121 - 9. eMail: [jnachega@jhsph.edu](mailto:jnachega@jhsph.edu)

**Timing of initiation of antiretroviral therapy in AIDS-free HIV-1-infected patients: a collaborative analysis of 18 HIV cohort studies.** When To Start Consortium, Sterne JA, et al. *Lancet* 2009; 373: 1352 - 63. eMail: [jonathan.sterne@bristol.ac.uk](mailto:jonathan.sterne@bristol.ac.uk)

**Newer antiretroviral agents and how to use them.** Kim HH, et al. *Curr HIV/AIDS Rep* 2009; 6: 55 - 62. eMail: [Edaar@LABioMed.org](mailto:Edaar@LABioMed.org)

## HIV/STD Guidelines *New*

CDC-Guidelines for Prevention and Treatment of Opportunistic Infections in HIV -infected Adults and Adolescents. August 26, 2009  
<http://www.cdc.gov/Mmwr/PDF/rr/r5804.pdf>

CDC-Guidelines for the Prevention & Treatment of Opportunistic Infections among HIV-exposed and HIV-infected Children. September 04, 2009  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5811a1.htm>

CDC-Recommendations to Help Patients Avoid Exposure to or Infection from Opportunistic Pathogens. August 20, 1999  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr4810a2.htm>

CDC-Updated Interim Recommendations—HIV-Infected Adults & Adolescents: Considerations for Clinicians Regarding 2009 H1N1 Influenza. October 21, 2009  
[http://www.cdc.gov/h1n1flu/guidance\\_hiv.htm](http://www.cdc.gov/h1n1flu/guidance_hiv.htm)

WHO-HIV Drug Resistance Laboratory Training Package, October 2009  
[http://www.who.int/hiv/pub/drugresistance/lab\\_training/en/index.html](http://www.who.int/hiv/pub/drugresistance/lab_training/en/index.html)

WHO-Prevention and Treatment of HIV & Other Sexually Transmitted Infections among Men who have Sex with Men & Transgender populations. September 2008  
[http://www.who.int/hiv/pub/marp/msm\\_mreport\\_2008.pdf](http://www.who.int/hiv/pub/marp/msm_mreport_2008.pdf)

WHO-Guidance on Testing & Counselling for HIV in Settings Attended by People who Inject Drugs: Improving Access to Treatment, Care & Prevention  
<http://www.wpro.who.int/NR/rdonlyres/D243AA59-5C7A-4C0D-AF55-4276E8DB62C7/0/GuidanceonTCinIDUsettings.pdf>

WHO-Male Circumcision Situation Analysis Toolkit  
[http://www.malecircumcision.org/programs/documents/MC\\_Situation\\_Analysis\\_Toolkit\\_FINAL\\_409.pdf](http://www.malecircumcision.org/programs/documents/MC_Situation_Analysis_Toolkit_FINAL_409.pdf)

WHO-HIV Testing, Treatment & Prevention: Generic Tools for Operational Research  
[http://www.who.int/hiv/pub/operational/or\\_generic\\_tools.pdf](http://www.who.int/hiv/pub/operational/or_generic_tools.pdf)

WHO-Priority Interventions HIV/AIDS Prevention, Treatment and Care in the Health Sector. April 2009  
[http://www.who.int/hiv/pub/priority\\_interventions\\_web.pdf](http://www.who.int/hiv/pub/priority_interventions_web.pdf)

IAS-Occupational & Non-occupational Post-exposure Prophylaxis for HIV in 2009; 17(3), July/August 2009  
<http://www.iasusa.org/pub/topics/2009/issue3/104.pdf>

JAMA-New Guidelines for the Management of HIV-related Opportunistic Infections. June 10, 2009  
<http://jama.ama-assn.org/cgi/content/full/301/22/2378>

PENTA 2009 Guidelines for the Use of Antiretroviral Therapy in Paediatric HIV-1 Infection.  
<http://www.pentatrials.org/guide09.pdf>

Guidelines for the Laboratory Diagnosis of Syphilis, June 2009  
Sokolovskiy E, et al., *J Eur Acad Dermatol Venereol* 2009; 23: 623 - 32.

## Funding Opportunities / Fellowships

Elton John AIDS Foundation Funding Opportunities  
<http://www.ejaf.org>

Hoffmann-La Roche Funding Opportunities  
<http://www.rocheusa.com/about/funding.html>

HIV/STD Prevention & Related Services for Gay Men/Men of Color Who Have Sex with Men  
<http://www.health.state.ny.us/funding/rfa/0907010500/0907010500.pdf>

MAC AIDS Fund: Global Foundation Grants  
<http://www.macaidsfund.org/>

Public Welfare Foundation: Funding Priorities  
<http://www.publicwelfare.org>

John M. Lloyd Foundation Grants  
<http://www.johnmlloyd.org>

Robert Wood Johnson Foundation Community Health Leaders: 2009 - 2010 Call for Nominations  
<http://www.communityhealthleaders.org>

Mental Health & Substance Abuse Services (MHSAS) Predoctoral Fellowship  
<http://www.apa.org/mfp/cprogram.html>

Health Impact Project: Advancing Smarter Policies for Healthier Communities  
[http://www.rwjf.org/files/applications/cfp/overview\\_HIAcfp2009.pdf](http://www.rwjf.org/files/applications/cfp/overview_HIAcfp2009.pdf)

Grants to Expand Substance Abuse Treatment Capacity in Targeted Areas of Need - Local Recovery Oriented Systems of Care (Short title: TCE - Local ROSC)  
<http://www.samhsa.gov/Grants/2010/ti-10-007.pdf>

The Meadows Foundation: Fund Opportunity  
<http://www.mfi.org>

CAPS Training Program for HIV-Prevention Research in Minority Communities  
<http://www.caps.ucsf.edu/CAPS/about/fellows/minorityindex.php>

All Fogarty Funding Opportunities  
<http://www.fic.nih.gov/funding/index.htm>

Ecology of Infectious Diseases Initiative (EID)  
[http://www.fic.nih.gov/programs/research\\_grants/ecology/index.htm](http://www.fic.nih.gov/programs/research_grants/ecology/index.htm)

Global Research Initiative Program for New Foreign Investigators (GRIP) (R01)  
[http://www.fic.nih.gov/programs/research\\_grants/grip/index.htm](http://www.fic.nih.gov/programs/research_grants/grip/index.htm)

Fogarty International Research Collaboration Award (FIRCA)  
[http://www.fic.nih.gov/programs/research\\_grants/firca/index.htm](http://www.fic.nih.gov/programs/research_grants/firca/index.htm)

Fogarty International Clinical Research Fellows Program for 2009 - 2010  
<http://www.fogartyscholars.org/fellows>

### US-NIH Grants

NIH Awards New Grants to Build Capacity in Informatics in Global Health  
<http://www.nih.gov/news/health/oct2009/fic-14.htm>

NIH - Research on Alcohol and HIV/AIDS (R01, R03, R21)  
<https://researchfunding.duke.edu/detail.asp?OppID=1834>

HIV Vaccine Research and Design (HIVRAD) Program (P01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-09-134.html>

Transmission & Pathogenesis of HIV in Women (P01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-170.html>

Research on Malignancies in the Context of HIV/AIDS (R21)  
<http://grants.nih.gov/grants/guide/pa-files/PA-07-454.html>

Oral Mucosal Vaccination against HIV Infection (R01)  
<http://grants.nih.gov/grants/guide/rfa-files/RFA-DE-10-001.html>

Centers Program for Research on HIV/AIDS & Mental Health (P30)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-009.html>

Interdisciplinary Research on Oral Manifestations of HIV/AIDS in Vulnerable Populations (P01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-117.html>

Centers for AIDS Research: D-CFAR, CFAR (P30)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-09-103.html>

Basic Research on HIV Persistence (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PA-09-152.html>

AIDS-Science Track Award for Research Transition (R03)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-10-021.html>

Phased Innovation Award Program for AIDS Vaccine Research (R21/R33)  
<http://grants.nih.gov/grants/guide/pa-files/PA-09-119.html>

Behavioral & Integrative Treatment Development Program (R34)  
<http://grants.nih.gov/grants/guide/pa-files/PA-10-013.html>

International Research in Infectious Diseases including AIDS (IRIDA) Program (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-130.html>

Diversity-Promoting Institutions Drug Abuse Research Program (DIDARP) (R24)



<http://grants.nih.gov/grants/guide/pa-files/PAR-09-011.html>  
Accelerating the Pace of Drug Abuse Research Using Existing Epidemiology,  
Prevention, & Treatment Research Data (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-10-018.html>

Global Infectious Disease Research Training Program Award (D43)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-154.html>

NIDA Core "Center of Excellence" Grant Program (P30)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-073.html>

Community Participation Research Targeting the Medically Underserved (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-075.html>

NIH - Simian Models for the Oral Biology of HIV Infection & AIDS-Related Oral  
Complications (R21)  
<http://grants.nih.gov/grants/guide/pa-files/PA-07-369.html>

NIH - Research on Malignancies in the Context of HIV/AIDS (R01, R21)  
<http://grants.nih.gov/grants/guide/pa-files/PA-07-455.html>

NIH - Prevention Research with HIV Positive Individuals (R01, R03, R21, R34)  
<http://grants.nih.gov/grants/guide/pa-files/PA-08-107.html>

NIH - Technology & Methods Development for Genomics, Population  
Genomics and ELSI (R01, R21) – AIDS  
<http://grants.nih.gov/grants/guide/pa-files/PA-07-458.html>

## Upcoming Scientific Events

2009

December ' 09

Workshop on AIDS Vaccine Research in India, December 1 – 2, 2009, Basti,  
Uttar Pradesh, India.  
[http://gsaindia.org.in/world\\_aids\\_day.pdf](http://gsaindia.org.in/world_aids_day.pdf)

27<sup>th</sup> Annual Infectious Disease Seminar for the Practicing Physician,  
December 4 – 6, 2009, Naples, FL, USA.  
<http://www.neoucom.edu/cme/Naples/IDNaples2009Brochure.pdf>

International Workshop on HIV Persistence: THE HIV Reservoirs Workshop,  
December 8 – 11, 2009, St. Martin/St. Marteen, West Indies, FWI.  
<http://www.hiv-workshop.com>

January ' 10

The YRG CARE Bioethics Symposium (TYBS 2010), January 8, 2010,  
Chennai, India  
<https://www.yrgcare.org>

Chennai ART Symposium 2010, January 9 to 10, 2010, Chennai, India  
[https://www.yrgcare.in/cart/cart\\_welcome.htm](https://www.yrgcare.in/cart/cart_welcome.htm)

2010 African Americans/Blacks; Gay Men; HIV/AIDS Prevention; Sexuality;  
Spirituality Conference, January 20, 2010, Atlanta, GA, USA.  
[www.bgrg-international.org/html/Summit-Information.html](http://www.bgrg-international.org/html/Summit-Information.html)

13<sup>th</sup> Bangkok International Symposium on Medicine, January 20 – 22, 2010,  
Bangkok, Thailand.  
<http://www.hivnat.org>

February ' 10

9<sup>th</sup> International Conference on New Trends in Immunosuppression and  
Immunotherapy, February 4 – 7, 2010, Prague, Czech Republic.  
<http://www.kenes.com/immuno>

5<sup>th</sup> International Conference on Sexology, February 13 – 14, 2010, Chennai,  
India.  
<http://internationalconferenceonsexology.com>

17<sup>th</sup> Conference on Retroviruses & Opportunistic Infections, February 16 – 20,  
2010, San Francisco, CA, USA.  
<http://www.retroconference.org/2010/display.asp?page=199>

2010 National Conference on African-Americans & AIDS, February 22 – 23,  
2010, Baltimore, MD, USA.  
[www.minority-healthcare.com](http://www.minority-healthcare.com)

March ' 10

14<sup>th</sup> International Congress on Infectious Diseases (ICID), March 9 – 12, 2010,  
Miami, FL, USA.  
[www.isid.org/14th\\_icid](http://www.isid.org/14th_icid)

8<sup>th</sup> European HIV Drug Resistance Workshop, March 17 – 19, 2010, Sorrento,  
Italy.  
<http://www.virology-education.com>

Keystone Symposia-HIV Vaccines, March 21 – 26, 2010, Banff, Alberta, Canada.  
<http://www.keystonesymposia.org/10X5>

16<sup>th</sup> ISHEID - International Symposium on HIV & Emerging Infectious Diseases ,  
March 24 - 26, 2010, Marseille, France.  
<http://www.isheid.com>

HIV Diagnostics Conference, March 24 - 26, 2010, Orlando, FL, USA.  
<http://www.cdcnpi.org/scripts/Display/ConfDisplay.asp?ConfNbr=7066>

3<sup>rd</sup> Annual HIV/AIDS New & Innovative Approaches, March 29, 2010 Greenbelt,  
MD, USA.  
<http://www.mcguireglobalrecruitment.com/careerFairs.php?fid=33&view=main>

The Intimate Side of Sexual Health, March 29 - 31, 2010, Pattaya, Thailand.  
<http://www.siamcare.org.uk>

April ' 10

World Vaccine Congress Washington 2010, April 19 – 22, 2010, Washington,  
USA. <http://www.terrapinn.com/2010/wvcdc/index.stm>

6<sup>th</sup> Annual AIDS Scenario Building Workshop: Planning for a Future with HIV &  
AIDS, April 21 – 23, 2010 London, UK.  
<http://www.ScenarioDevelopment.com/Aidsscenarios>

16<sup>th</sup> Annual Conference of the British HIV Association (BHIVA) with the British  
Association for Sexual Health & HIV (BASHH), April 21 – 23, 2010,  
Manchester, UK.  
<http://www.bhiva.org/cms1224236.asp>

Pediatric Infectious Diseases: An Evidence-Based Approach, April 26 – 30, 2010,  
Sarasota, Florida, USA.  
<http://www.ams4cme.com>

June ' 10

2<sup>nd</sup> TB Conference, June 1 – 4, 2010, Pretoria, South Africa.  
<http://www.tbconference.com>

29<sup>th</sup> World Congress of Biomedical Laboratory Science, June 6 – 10, 2010  
Nairobi, Kenya.  
<http://www.akmlso-ifbls2010.org>

July ' 10

XVIII<sup>th</sup> International Conference on AIDS, July 18 - 23, 2010, Vienna, Austria.  
<http://www.aids2010.org>

5<sup>th</sup> IAS International AIDS Conference, July 19 - 22, 2010 Cape Town, S. Africa.  
<http://www.ias2009.org/start.aspx>

September ' 10

International Conference on Opportunistic Pathogens, September 28 – 30, 2010,  
New Delhi, India.  
<http://icopa-india.org>

October ' 10

Australasian HIV/AIDS Conference 2010, October 20 – 22, 2010, Sydney, New  
South Wales, Australia.  
<http://www.hivaidsconference.com>

December ' 10

Hope 2010 International Conference on Drug Abuse & HIV, December 15 - 17  
2010, Mumbai, Maharashtra, India.  
<http://www.internationalconference2010.com>



## YRG CARE

Academic Programmes



### PhD Degree Course

Applications for PhD degree course (affiliated to the University of Madras) at YRG CARE are invited from candidates who have completed their Post Graduate degree in Medical Microbiology /Applied Microbiology / Molecular biology / Biotechnology. Applicants should have passed the national entrance tests for independent fellowships under CSIR /ICMR/ DBT.

## YRG CARE

Forthcoming Events

TYBS  
2010

### THE YRG CARE BIOETHICS SYMPOSIUM (TYBS 2010)

YRG CARE is organising a Bioethics symposium (TYBS 2010) on 8<sup>th</sup> January 2010, at the GRT Grand Hotel, Convention Center, T.Nagar, Chennai. This symposium will explore ethical issues in research involving human participants. Faculty includes national and international experts in the field of bioethics. Participation is on first-come-first-served basis. For more details, write to [tybs@yrgcare.org](mailto:tybs@yrgcare.org)



### CHENNAI ART SYMPOSIUM (CART 2010)

YRG CARE is conducting the 2010 symposium (CART 2010) on 9<sup>th</sup> and 10<sup>th</sup>, January 2010 at the GRT Grand Hotel, Convention Center, T.Nagar, Chennai. With an objective to provide the latest clinical updates on the management of HIV infection and current concepts of antiviral therapeutics, several experts from national and international Institutes will be delivering talks on the pathogenesis of HIV disease, principles of antiretroviral therapy, toxicities, immune reconstitution syndrome, drug resistance, newer drugs, management of co-infections and opportunistic infections, ART in pregnancy, management of paediatric HIV infection, and laboratory diagnosis of HIV. Clinicians involved or interested in HIV care and interested researchers are invited to participate in CART 2010. For more details on the symposium, visit the CART website at [http://www.yrgcare.in/cart/cart\\_welcome.htm](http://www.yrgcare.in/cart/cart_welcome.htm) or write to [cart@yrgcare.org](mailto:cart@yrgcare.org)



### 3<sup>rd</sup> ANNUAL SCIENCE SYMPOSIUM ON HIV/AIDS

The Third Annual Science Symposium on HIV/AIDS – HIV SCIENCE 2010 will be organized by YRG CARE in Chennai (dates to be announced soon). The annual HIV symposium will bring together leading faculties/experts/scientists to provide updates on HIV/AIDS. The symposium is focused for professionals and post-graduate students from medical, para-medical, science colleges/universities/ research institutions. For more details please visit [www.yrgcare.org](http://www.yrgcare.org) or write to us at [HIVSymposium@yrgcare.org](mailto:HIVSymposium@yrgcare.org).

## YRG CARE

Past Events

### HIV SCIENCE 2009 – 2<sup>nd</sup> Annual Science Symposium on HIV/AIDS

YRG CARE organized a 2-day, Second Annual Science symposium on HIV/AIDS on the 28<sup>th</sup> and 29<sup>th</sup> of August 2009 at the Vigyan Auditorium, SERC, Council of Scientific and Industrial Research (CSIR) campus, at Taramani, Chennai. The symposium was co-sponsored by the Indian Council of Medical Research (ICMR), New Delhi, Department of Biotechnology (DBT), Government of India, New Delhi, Council of Scientific and Industrial Research (CSIR), New Delhi, Tamilnadu State Council for Science and Technology (TNSCST)/National Council for Science & Technology Communication (NCSTC), New Delhi, Microbicides Society of India (MSI), New Delhi and Science Publications, New York, USA.



**Photograph:** From the left, Dr. Alphonse Selvaraj, Additional Director, Directorate of Public Health & Preventive Medicine, Govt. of Tamilnadu, Prof. Suniti Solomon, Dr. R. S. Paranjape, Director, NARI, Pune, Dr. K. G. Murugavel, and Prof. K. Meer Mustafa Hussain, Vice-Chancellor, The Tamilnadu Dr. M G R Medical University, Chennai.

Four hundred and eighteen delegates from various states of India, 2 delegates from the USA and one from South Africa participated in the symposium. A total of 20 participants were awarded with scholarships towards registration fees in order to encourage them to endorse research on HIV disease. Poster sessions were held on both the days of the symposium that provided a platform for the participants to update the ongoing research activities. An expert committee adjudged four abstracts for best poster awards that were given away by Prof. Suniti Solomon at the end of the symposium. Accepted full papers of abstracts are to be published in the *American Medical Journal*, Science Publications, New York, USA. The scientific program contained a rich mix of formats, with sessions featuring well-known and thought-provoking speakers from esteemed institutions and highly interactive discussions followed each of the scientific sessions. The scientific content ranged from basics to the most advanced development in the field of HIV and STDs.

## YRG CARE

June – December 2009

### Publications

**AIDS-related and non-AIDS-related mortality in the Asia-Pacific region in the era of combination antiretroviral treatment.** Falster K, Choi JY, Donovan B, Duncombe C, Mulhall B, Sowden D, Zhou J, Law MG; Australian HIV Observational Database; TREAT Asia HIV Observational Database. *AIDS*. 2009; 23(17): 2323 - 36.



**Alterations in acute-phase proteins among HIV-1 infected persons receiving generic HAART in southern India.** Sundaram M, Srinivas CN, Shankar EM, Balakrishnan P, Solomon S, Kumarasamy N. *J Infect.* 2009; 58(6): 465 - 7.

**Associations between social capital and HIV stigma in Chennai, India: considerations for prevention intervention design.** Sivaram S, Zelaya C, Srikrishnan AK, Latkin C, Go VF, Solomon S, Celentano D. *AIDS Educ Prev.* 2009; 21(3): 233 - 50.

**Can iron depletion inside macrophages serve to prolong HIV disease progression?** Shankar EM, Vignesh R, Velu V, Ponnalar E, Murugavel KG, Sundaram M, Balakrishnan P, Solomon S. *Bioscience Hypotheses.* 2009; 2(3): 125 - 7.

**Cofactors for low serum albumin levels among HIV-infected individuals in Southern India,** Sundaram M, Srinivas CN, Shankar EM, Balakrishnan P, Solomon S, Kumarasamy N. *J Int Assoc Physicians AIDS Care.* 2009; 8(3): 161 - 4.

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## US-FDA Approves New ABBOTT Prism Automated Test for Screening Donated Blood and Organs for HIV

Abbott Prism HIV O Plus assay, the fully automated test that can detect antibodies to HIV type 1, groups M and O, and HIV type 2 in donated blood, tissue, and organs for transplantation got approved by US-FDA in September 2009. It is the second donor screening test licensed by FDA for the detection of antibodies to HIV type 1, group O.

### Ask the Experts

Readers are invited to send their queries on HIV/AIDS, which will be answered by experts from YRG CARE.

### Invitation for Contributors

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## 2009 World AIDS Day!



World AIDS day, observed on the 1<sup>st</sup> December of each year was established by the World Health Organization in the year 1988. World AIDS Day provides governments, national AIDS programmes, faith organizations, community organizations, and individuals with an opportunity to raise awareness and focus attention on the global AIDS epidemic.

The World AIDS Day theme for 2009 is '**Universal Access and Human Rights**'. The theme has been chosen to address the critical need to protect human rights and attain access for all to HIV prevention, treatment, care and support.



# THE HIV/AIDS NEWSLETTER

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