

PAEDIATRIC TREATMENT, VIRAL EVOLUTION, AND BIOMEDICAL PREVENTION IN TODAY'S PLENARY

Keeping Up with the Kids: Paediatric Treatment

Better generic paediatric antiretrovirals that are both potent enough to achieve sustained clinical and virologic improvement and have limited long-term metabolic side effects are urgently needed, according to Dr. Annette Sohn, Assistant Professor of Pediatric Infectious Diseases at the University of California, San Francisco. Research studying optimal times to initiate and switch treatment, and on baseline and emerging resistance, are gathering evidence to guide clinical decision-making, according to Sohn. Promoting adherence and providing social support for the family are also ways to help delay treatment failure and secure a future for children. Sohn reports that, internationally, only 15 percent of children who need treatment are receiving it.

Outpacing HIV: Viral Fitness, Escape Routes and Resistance

HIV-1 has an enormous adaptive capacity, which hampers therapeutic intervention because the virus can become resistant to antiviral drugs used in the clinic, according to Dr. Ben Berkhout, Head of the Laboratory of Experimental Virology at the University of Amsterdam. As Berkhout will explain, the driving force behind this variation is viral evolution. Viral evolution is the concept that viruses (particularly RNA viruses such as HIV) have short generation times and high mutation rates, which allow the virus to quickly adapt to the environment of the host.

Berkhout will describe the molecular mechanisms involved in viral evolution. He also will report on some remarkable HIV-1 evolution paths. For example, Berkhout's lab has demonstrated for the first time that HIV-1 can not only become resistant to drugs, but can also become dependent on certain antiviral drugs.

Biomedical HIV Prevention

In her plenary remarks, Dr. Nancy Padian will describe current and promising HIV prevention technologies, including: the use of drugs to suppress genital herpes; microbicides; pre-exposure prophylaxis; and cervical barriers. Padian is Director of International Programs at the University of California, San Francisco AIDS Research Institute.

According to Padian, researchers encounter a number of methodological challenges when evaluating these methods, including the effect of comparison groups; measurement of self-reported behaviours and adherence; and the fact that technological interventions are almost always evaluated as components of more comprehensive intervention packages. She will also address levels of evidence used to assess the effectiveness of prevention interventions and will propose recommendations regarding future research directions.

Visit www.ias2007.org to view kaisernetwork webcasts of plenaries.

Reaching MSM in Developing Countries

HIV among men who have sex with men (MSM) is widespread and worsening, particularly in the developing world. In many parts of Asia, Africa, Eastern Europe and Latin America, stigma combines with criminalization and inadequate health services to fuel infection rates on par with rates among developed-world gay communities in the 1980s, according to amFAR, The Foundation for AIDS Research. This potentially devastating trend has prompted the launch of a global effort to address the spread of HIV among MSM in developing countries.

According to organizers of the campaign, male-to-male sex is illegal in 85 countries, and fewer than five percent of MSM have access to HIV services. MSM groups receive little benefit from international HIV prevention efforts because funding is usually directed by national governments, which tend to overlook the needs of MSM.

"Empowering MSM and other marginalized groups to protect themselves from HIV is one of the world's most urgent health priorities," said Dr. Peter Piot, Executive Director of UNAIDS.

The MSM initiative, launched at IAS 2007 by amFAR, also has support from UNAIDS and the Global Forum on MSM and HIV, with financial support from groups including the MAC AIDS Fund and the Bill & Melinda Gates Foundation. It is designed to support grassroots MSM organizations, build awareness of HIV epidemics among MSM, and advocate for effective policies and funding for MSM-specific HIV programmes.

IAS 2007: The Numbers

- 5,000 delegates from 133 countries
- Over 3,100 abstract submissions (a 50 percent increase over 2005)
- 978 abstracts for presentation
- 54 sessions, including 5 plenaries, 5 special sessions and 22 satellite meetings
- 170 general scholarships and 45 speaker scholarships
- 7 scientific awards to young investigators
- 45 commercial and non-commercial exhibits
- 424 local and international media representatives
- More than 1,550 signatures in support of the Sydney Declaration

Biomedical Prevention Research

Biomedical prevention strategies, such as microbicides and pre-exposure prophylaxis (PrEP), can serve as an alternative or addition to traditional prevention methods, such as condoms. Although the closing of certain phase III trials and lack of conclusive study results have put their use into question, these technological advances remain promising prospects.

Microbicides allow women to protect themselves from HIV without the required cooperation of a partner, as with condoms. The excitement surrounding microbicides was somewhat dampened by the termination of the CONRAD trial, a phase III trial testing the efficacy of cellulose sulfate in South Africa, Benin, Uganda and India. The Wednesday bridging session, *Microbicides and Mucosal Immunity* (WEBS1, 14:30), will describe ongoing and future phase III trials aimed at proving the efficacy and safety of microbicides.

PrEP research has also faced challenges. A trial of tenofovir versus placebo was conducted with seronegative women from Ghana, Cameroon and Nigeria. Due to the premature discontinuation of the trial in Cameroon and Nigeria, the study was able to prove safety, but was not statistically powered to prove efficacy. An additional concern about PrEP is the question regarding a possible rise in resistance of HIV to ARVs, if many seronegative individuals were to be placed on an ARV regimen.

During the IAS Industry Liason Forum on the first day of the conference, Dr. Dawn Smith urged the establishment of a framework for PrEP implementation despite these reservations, giving reasons to believe PrEP will prove efficacious in ongoing trials. Smith pointed to PrEP's success in animal models, high concentration levels in genital secretions, and success as post-exposure prophylaxis as reasons to be hopeful. The proposed framework can accommodate other biomedical interventions, should PrEP fall short in clinical trials.

Bina Valsangkar

Today's Late Breaker Sessions

Track B: Clinical Research, Treatment and Care [Session 1]

13:00 - 14:00, *Bayside Auditorium B*

- PREDICT-1: S. Mallal, Australia
- BICOMBO: J. M. Gatell, Spain
- CHER: A. Violari, South Africa (see story, right)
- MERIT: M. Saag, US

Track B: Clinical Research, Treatment and Care [Session 2]

16:30 - 17:30, *Bayside Auditorium B*

- Antiviral effects and tolerability of the CCR5 monoclonal antibody PRO 140: a proof of concept study: W.C. Olson, US
- Short-term monotherapy with UK-453,061, a novel NNRTI, reduces viral load in HIV infected patients: T. Jenkins, UK
- Superior activity of apricitabine compared to 3TC over 21 days in patients failing therapy: P. Cahn, Argentina
- DUET-1: A. Mills, US
- DUET-2: C. Katlama, France

Tracks A (Basic Science) and C (Biomedical Prevention)

16:30 - 17:30, *Bayside Auditorium A*

- Phase III trial of 6% cellulose sulfate (CS) gel: L. Van Damme, US
- Effectiveness of CS gel for prevention of HIV: W. Cates Jr., US
- A vaginally-applied microbicide, PSC-RANTES (PSC) can select for a drug resistant SHIV in a macaque model: E. Arts, US
- The diaphragm and lubricant gel for prevention of HIV acquisition in Southern African women: results of an RCT: N. Padian, US

Webcasts of late breaker sessions will be on the conference website.

CAPE TOWN CHOSEN FOR IAS 2009

The International AIDS Society has announced the selection of Cape Town, South Africa, as host of the 5th IAS Conference on HIV Pathogenesis, Treatment and Prevention (IAS 2009) in July 2009. The event will be organized by the IAS, in partnership with South African-based NGO Dira Sengwe, the organizer of the South African AIDS Conferences.

IAS President-Elect Dr. Julio Montaner (Canada) has been appointed the International Chair, while Prof. Hoosen Coovadia, an international expert on paediatric AIDS, and Chair of AIDS 2000 and the 1st South African AIDS Conference, has accepted the position of Local Chair.

"The IAS conference is the premier forum for participants to learn about the latest scientific developments and explore how such developments can be realistically applied to the regional and global response to HIV/AIDS," said Coovadia. "We look forward to welcoming delegates to Cape Town."

"Cape Town was selected based on the success of AIDS 2000, and most importantly, we wanted to bring this conference to Sub-Saharan Africa, where the HIV epidemic is at its worst," added Montaner.

CHERish the Children

Outcomes of the first randomized trial on antiretroviral therapy (ART) for infants younger than 12 weeks are likely to influence future guidelines for treatment of HIV-positive children. The Children with HIV Early Antiretroviral Therapy (CHER) study indicates that early identification of HIV and initiation of ART results in a 75 percent reduction in early mortality in a resource-limited setting. These important study results will be presented at today's first Track B late breaker session (13:00, Bayside Auditorium B) by Dr. Avy Violari, director of clinical paediatric trials in Soweto, South Africa.

Programme Updates: Wednesday 25 July

Session: **WEAB2** – 11:00-12:30

WEAB201 will be presented by **Scott Letendre**, US

Session: **WEPDB** Predictors of CD4+ T Cell Decline and Responses to Antiretroviral Therapy will be held in session room **Parkside Ballroom B – 13:00-14:00**

Session: **WESS1** Track B Late Breaker Session 1 (13:00-14:00) will be chaired by **Luis Soto-Ramirez**, Mexico, and **Stefano Vella**, Italy

Session: **WESS2** Track B Late Breaker Session 2 (16:30-17:30) will be chaired by **Janet Darbyshire**, UK, and **Hector Perez**, Argentina

Session: **WESS3** Track A and C Late Breaker Session (16:30-17:30) will be chaired by **François Dabis**, France, and **Peggy Johnston**, US

Poster Exhibition **WEPEB077** will be presented by **Andrew Carr**, Australia