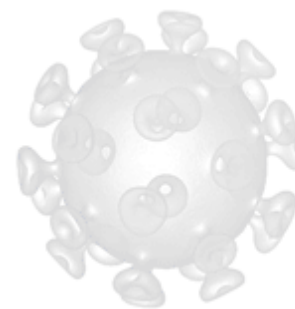


CROI 2014

21st Conference on Retroviruses and Opportunistic Infections

Boston, USA, 3-6 March 2014



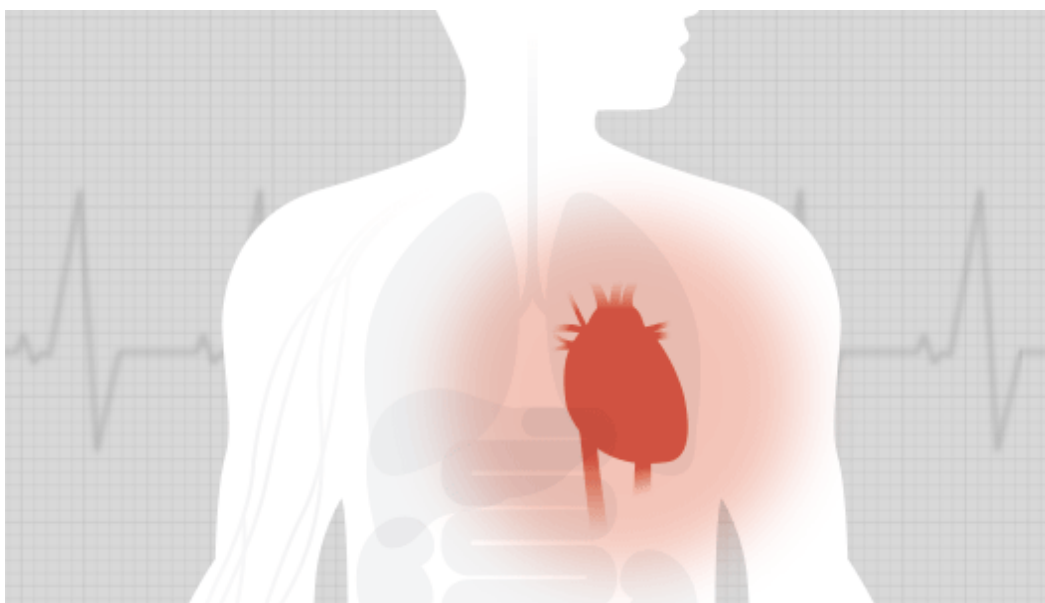
Wednesday 12 March

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HIV and heart attack risk



Cardiovascular disease has become a major cause of serious illness and death in people living with HIV. The exact reasons are unclear, but could include the damage caused by untreated HIV infection, the **side-effects of some antiretroviral drugs** and traditional risk factors such as diet and smoking.

The relationship between HIV and the risk of heart attack was the subject of several studies presented at CROI. There were some promising signs that improvements in HIV treatment could be normalising rates of heart attack among people living with HIV.

Researchers in California compared rates of heart attack in almost 25,000 people living with HIV and 250,000 HIV-negative people of the same age and sex, between 1996 and 2011.

Overall, those with HIV were 40% more likely to have a heart attack. But the relationship between HIV and heart attack risk diminished over the course of the study, and in 2010-11 people living with HIV and HIV-negative people had a similar level of risk.

But the study population comprised individuals enrolled in a health insurance plan and 91% were male, so the researchers caution that their findings might not be applicable to other groups, in particular to women.

Separate research involving over 2000 women receiving care via the US Department of Veterans Affairs showed that HIV was associated with a threefold increase in the risk of heart attack and that heart attacks occurred at a younger age in women with HIV.

Other research showed a relationship between a lower CD4 cell count and heart attack risk, whereas a study involving older people showed that HIV increased the risk of heart attack by approximately 40%.

Have these studies clarified the relationship between HIV and cardiovascular risk? The startlingly contrasting results of the Californian study involving people with private health insurance and those from the Veterans Affairs cohort suggests that traditional risk factors and the effects of poverty may be important in determining which people living with HIV have an increased risk of heart attack.

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Massive increases in testing and treatment uptake needed to curb HIV epidemic among UK gay men



The proportion of gay men living with HIV in the UK who have an undetectable viral load would need to increase from the current rate of 60% to around 90% in order to curtail the number of new infections in this population, results of a modelling study show.

Gay men remain one of the groups most affected by HIV in the UK, and the rate of new infections isn't falling.

Results from the first two years of the PARTNER study, presented to CROI, showed that there were no HIV transmissions in gay couples (or heterosexual couples) when the partner with HIV was taking treatment that suppressed viral load. But despite free access to care and good treatment outcomes, the rate of new HIV infections among UK gay men each year remains either steady or increasing.

Currently, about 60% of gay men living with HIV in the UK have an undetectable viral load. Results of this modelling study showed that if this remained unchanged, over 3000 gay men would acquire HIV each year.

However, if the percentage with an undetectable viral load was increased to 90%, then the number of new infections would be reduced to approximately 600 each year.

To achieve this, the model found it would be necessary to increase testing rates and for people diagnosed with HIV to start treatment immediately. Currently, 40% of men are diagnosed within a year of acquiring HIV, but this would need to increase to 90% for HIV treatment to have a big impact on the rate of new infections.

Overall, the model does show that HIV treatment can make a big impact on HIV rates among gay men in the UK but this would require a major rethink of current testing and treatment strategies.

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[A webcast of this session is available through the CROI website](#)

HIV risk for pregnant women



Results of a study conducted in Kenya show that women have a high risk of acquiring HIV during pregnancy. The results show the importance of repeat HIV testing during pregnancy, in particular to help prevent mother-to-child transmission of HIV.

The researchers enrolled over 1300 women in the study, conducted between 2011 and 2013. To be eligible for the study, the women had to have tested HIV negative at their antenatal visit or within the previous three months.

Ten women were diagnosed with HIV at enrolment and a further 14 acquired HIV during follow-up – two late in pregnancy, three at 14 weeks after giving birth and seven at nine months after giving birth.

The presence of a sexually transmitted infection (STI) was associated with a fourfold increased risk of infection with HIV during pregnancy, and the researchers highlighted the importance of testing and treatment for STIs in HIV prevention.

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Prevention of mother-to-child transmission

Lopinavir/ritonavir or 3TC are equally effective when used as infant pre-exposure prophylaxis (PrEP) to prevent mother-to-child transmission of HIV during breastfeeding, according to results of a twelve-month study conducted in several African countries.

The study involved over 1200 infants, born to mothers living with HIV, who did not have HIV at birth. They were being breastfed, which meant there was a potential risk of HIV transmission through breast milk. Infants were randomised to two groups, to receive prophylaxis with either lopinavir/ritonavir (*Kaletra*) or 3TC (lamivudine, *Epivir*).

Over twelve months of breastfeeding, approximately 1.5% of infants acquired HIV and the transmission rates did not differ between the PrEP regimens. The rate of HIV-free survival was above 95% for both lopinavir/ritonavir and 3TC, and the infant mortality rate was similar for the two drugs. The researchers noted that no death was attributable to HIV, but to diarrhoea or pneumonia.

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New drugs and treatment strategies

Several studies presented at CROI provided information on promising experimental anti-HIV drugs or novel treatment strategies.

New NNRTI does well in study



Javier Morales-Ramirez presenting at CROI 2014. Photo by Liz Highleyman, hivandhepatitis.com.

The experimental NNRTI doravirine is highly potent against HIV and has a good side-effect profile. The NNRTI (non-nucleoside reverse transcriptase inhibitor) class of anti-HIV drugs currently includes efavirenz, etravirine, nevirapine and rilpivirine.

In this study, doravirine was taken in combination with tenofovir and FTC, the drugs in *Truvada*. The research involved approximately 200 people taking HIV treatment for the first time. The potency and safety of doravirine was compared to efavirenz (*Sustiva*, *Stocrin*, also in the combination pill *Atripla*).

After 24 weeks, 76% of people taking doravirine had an **undetectable viral load** compared to 64% of those taking efavirenz. Doravirine was also associated with lower rates of **side-effects**.

A 100mg dose of doravirine will be investigated in further research.

Maintenance therapy with two drugs



David Margolis presenting at CROI 2014. Photo by Liz Highleyman, hivandhepatitis.com.

A combination of two anti-HIV drugs has been shown to be as effective as traditional triple drug therapy at keeping viral load undetectable in people who first achieved viral suppression using a three-drug combination.

The dual combination consisted of the NNRTI **rilpivirine** (*Edurant*) and the experimental integrase inhibitor GSK1265744.

Participants in the study started therapy with a triple drug combination. After six months, as long as they had a viral load under 50 copies/ml, treatment was switched to one of three doses of the two-drug **maintenance combination**. Treatment continued for a further six months and rates of viral suppression were compared with those of people taking a three-drug combination.

The same proportions of people taking dual-drug and triple-drug therapy had an undetectable viral load at week 48.

Related links

[Read the news report on doravirine in full on aidsmap.com](#)

[A webcast of this session is available through the CROI website](#)

[Read the news report on two-drug maintenance therapy in full on aidsmap.com](#)

[A webcast of this session is available through the CROI website](#)

Other news headlines from CROI 2014

Nipping HIV in the bud: could we use genotyping to interrupt transmission?

The conference this year heard a number of presentations on phylogenetic analysis – the use of genetic fingerprinting of HIV to trace patterns of transmission and prioritise groups for targeting prevention. [Read more >>](#)

Efavirenz-based ART matches lopinavir/ritonavir for perinatal HIV treatment

Pregnant women taking efavirenz-based antiretroviral therapy had significantly better virologic outcomes at the time of delivery compared to those taking lopinavir/ritonavir in a randomised study in rural Uganda, Dr Deborah Cohan, reporting on behalf of the PROMOTE study team, told attendees at the conference. [Read more >>](#)

Rejecting serodiscordant partners is HIV prevention strategy of choice for 40% of gay men

A study from Seattle has found that avoiding men of the opposite HIV status was by far the most common method of trying to avoid HIV in gay men who sometimes had condomless sex with more than one partner, according to findings presented at the conference. [Read more >>](#)


Editors' picks from other sources

First trial of combination ARV vaginal ring for HIV prevention finds ring safe but one ARV carrying the weight

from Microbicide Trials Network


Phase I study indicates more work needed to develop maraviroc, the first entry inhibitor tested as a microbicide. Results are positive for a dapivirine ring, already in phase III trials.

Viral load rebounds in 35% of people using PI/r monotherapy: results of five-year PIVOT study

 from HIV i-Base

A long-term strategy study sponsored by the Medical Research Council (MRC) in the UK reported low rates of serious complications and the potential to reduce drug costs. However, more than a third of people in the PI/r monotherapy group had viral load rebound compared to only 3% of people on standard combination therapy.

Two new studies point to impact of HIV treatment on transmission in high-HIV-burden African contexts

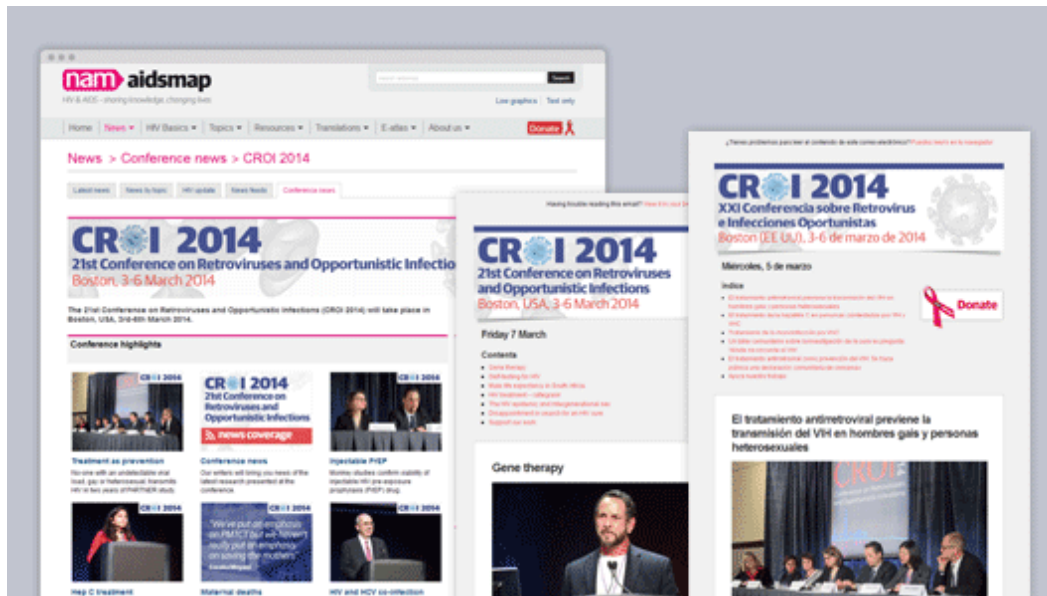
 from MSF

Two new studies released by Epicentre, the research arm of the international medical humanitarian organisation Médecins Sans Frontières/Doctors Without Borders (MSF) at the conference point to reductions in new HIV infections in areas where HIV treatment has been scaled up.

HIV drug linked to low bone density in babies

 from MedPage Today

Babies of HIV-positive mothers taking an antiretroviral drug recommended for pregnant women have reduced bone density, a researcher told the conference.



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- | all our news stories
- | our conference bulletins in English, French, Spanish, Portuguese, Italian and Russian
- | news from other sources, selected by our editors.
- | a selection of tweets from the conference.

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