Genital tract inflammation linked to disease progression

The significant results of a recent study have shown that elevated genital cytokine concentrations after HIV-1 infection were associated with more rapid disease progression. Genital inflammation during early infection did not differ relative to pre-infection, but was increased in women who had vaginal discharge, detectable HIV-1 RNA in their genital tracts, and lower blood CD4 counts. The study concluded that strategies aimed at reducing genital inflammation during early HIV-1 infection may slow disease progression.

Other findings showed that genital inflammation in women recently infected with HIV-1 were not significantly increased when compared with pre-infection.

It was also found that inflammation was associated with women who tested positive for more than one STI or had symptoms of STIs.

The results also showed a link between genital tract inflammation and HIV-1 shedding in the study participants.

Against the background of the heavy burden of HIV infection in young women, the study — the first of its type conducted — compared cytokine concentrations in cervicovaginal samples from the same women at pre-infection and during early HIV-1 infection.

The methods used in the study involved the measurement of inflammatory cytokine concentrations in cervicovaginal lavage from 49 women at various stages between 6 and 55 weeks after HIV-1 infection and from 22 women before infection.

*JID, 15 January 2012, Vol 205, No 2*
Professors Quarraisha and Salim Abdool Karim collected the prestigious N’Galy-Mann Award at the 19th Conference on Retroviruses and Opportunistic Infections (CROI) on Monday 5 March 2012 in Seattle, Washington, USA.

Focusing on the important partnerships and collaborations in creating excellence in developing scientific innovations for HIV prevention and treatment, the Abdool Karims delivered the plenary lecture in the opening session of the conference.

CROI included 4000 scientists and clinical investigators from around the world.

In paying tribute to its partners, Professor Quarraisha Abdool Karim said: “Our research on the tenofovir gel microbicide was made possible by the joint funding of the South African and US governments. The South African partnerships with US government agencies (USAID and NIH), US non-profit organisations (FHI360 and CONRAD), US pharmaceutical company (Gilead Sciences) and US philanthropy (MAC AIDS Fund) are central to the success of the gel research.”

The N’Galy-Mann Award was established in 2006 to recognise an individual or team of researchers for their contribution to epidemiology and clinical research.

No major increase in tenofovir resistance detected

The results of a study to assess tenofovir resistance, found that resistance-mutant frequencies were not significantly increased in women who were receiving tenofovir gel.

Using deep sequencing the authors examined HIV sequences from breakthrough infection among women who participated in the CAPRISA 004 treatment arms.

(Paper 1063)

Natural killer cells linked to HIV protection

The data from a study indicated that women who have a large number of natural killer cells in their blood, that produced antiviral cytokine IFN-γ, were less likely to become infected with HIV.

The authors concluded that the results were consistent with a model in which NK cells, as early responders to viral exposure, play a role in protection from HIV acquisition.

(Paper 56)
In January, the issue of intergenerational sex became the centre of an awareness campaign launched by Dr Sibongiseni Dhlomo, the MEC for the KwaZulu-Natal Provincial Department of Health.

The so-called “sugar daddy” campaign encourages the friends and families of young women aged 14 to 25 to protect their young women from entering into sexual relationships with older men in exchange for gifts.

Transactional sex has seen a rise, particularly in poverty stricken rural areas, where many people – men and women - tolerate these forms of relationships as a means for young women to acquire food, money, cell-phones or status.

In addition to high pregnancy rates, intergenerational relationships have been cited as one of the causes of the high incidence of HIV infection in young women in South Africa.
Research papers published in 2012

1. **Comparing early treatment outcomes of MDR-TB in a decentralised setting with a centralised setting in South Africa.**
   Loveday M, Wallengren K, Voce A, Margot B, Reddy T, Master I, Brust J, Chaiyachati K, **Padayatchi N.**

2. **Genital Tract Inflammation during early HIV-1 infection predicts higher plasma viral load set point in women.**

3. **Design challenges facing clinical trials of the effectiveness of new HIV prevention technologies.**
   Grobler AC, Abdool Karim SS.
   AIDS 2012, 25:000-000. DOI:10.1097/QAD.0b013e3283509a29

4. **HIV Prevention in High-risk women in South Africa: Condom Use and the Need for Change.**
   Van Loggerenberg F, Dieter AA, Sobieszczyk ME, Werner L, Grobler A, Koleka Mlisana for the CAPRISA 002 Acute Infection Study Team.
   PLoS ONE 7(2): e30669. doi:10.1371/journal.pone.0030669

5. **Experience of the HIV Prevention Trials Network HPTN).**
   Sista ND, Abdool Karim Q, Hinson S, Donnell D, Eshleman, Vermund SH.
   Development of an international network for clinical research:
   Clinical Investigation. 12/2011, 1:1609-1618

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### Scientific Reviews

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# for month, * since committee initiation

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### Conference & Workshop Reminders

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