March 2002 Interdepartmental Journal Club

Report by Judith King, HIVAN Media Office

The second session of the 2002 series of Journal Club meetings was held on Friday 1st March 2002 from 12h00 to 13h00 in the Nelson R Mandela School of Medicine's Staff Dining Room. Co-hosted by the Department of Community Health, HIVAN and the Harvard Enhancing Care Initiative (ECI), the forum attracted a sizable audience, with Community Health Registrar Dr Elizabeth Lutge and paediatrician Professor Jerry Coovadia (who also holds the Victor Daitz Chair of HIV/AIDS Research) being the guest speakers.

In welcoming those present, Prof Coovadia explained that the forum was intended not only to afford young researchers the opportunity of presenting in a dynamic manner, but also as a means of stimulating vigorous debate. He emphasised that the meetings should not be made tedious by longwinded presentations; rather, the essential theory, methods and findings of the journal articles should be outlined and the significance of the research highlighted.

He also noted that with HIV infection rates of one-in-three prevailing in KwaZulu-Natal, it was the correlative impact of the research on the development of policy around the epidemic that should receive special focus. Ideally, time during the Journal Club sessions would be apportioned to two 20-minute journal presentations (one each from a senior and a junior consultant) and a 20-minute time-slot for feedback from recent HIV/AIDS conferences.

Dr Elizabeth Lutge proceeded to present three journal articles, as follows:

`HIV-1 infection and risk of vulvo-vaginal and peri-anal condylomata accuminata and intraepithelial neoplasia: a prospective cohort study.' Lois J Conley et al. The Lancet 2002; 359:108-13

This study followed a group of 925 women for a median period of 3.2 years. They found that women who are HIV-positive are at increased risk of developing vulvo-vaginal and peri-anal lesions (sores), and that these lesions are more likely to be malignant or pre-malignant in HIV-positive than in HIV-negative women. It was noted that, although the research period was too short to determine whether HAART (Highly Active Antiretroviral Therapy) could be offered as an effective therapy, this was an important study because it examined one of the many co-infections of HIV; also, since the state of the tissue changes so rapidly in these cases, it highlighted a need for all women to undergo regular PAP smear tests.

'Effect of concomitant HIV infection on presentation and outcome of rotavirus gastroenteritis in Malawian children'; Nigel A Cunliffe et al. The Lancet 2001; 358: 550-55

This study looked at children younger than five years presenting with rotavirus diarrhoea to both in-patient and out-patient departments. They were followed up for a period of four weeks after discharge. Although the severity of the diarrhoea was the same in HIV- positive and HIV-negative children, they found that children infected with HIV were much more likely to die in the period of follow-up. A low CD4 count was associated with a higher risk of death. It was noted that although an oral vaccine for rotavirus exists, it caused "stuck bowel" (interception), and with the huge impact this co-infection is having in developing countries, more intense research is needed for an improved vaccine of its kind. This type of diarrhoea thoroughly depletes the immunity of the child, which, in an HIV-positive patient, is already compromised. Prof Coovadia noted that if children are very young and the immune system is still intact, they can take a live vaccine, but once they are immune-compromised, this is not a viable remedy.

'Risk of early febrile seizure with perinatal exposure to nucleoside analogues'; French Peri-natal Cohort Study Group. The Lancet 2002; 359: 583-84

This study found that children who were exposed to antiretrovirals in the womb (to prevent mother-to-child transmission of HIV) were at a significantly higher risk of febrile seizures (feverish convulsions) than those who were not exposed. All children were HIV-negative. However, since febrile seizures are not life-threatening, this finding does not justify withholding antiretrovirals from pregnant mothers.

Prof Coovadia thanked Dr Lutge for her presentations and spoke informally to the gathering, touching on issues such as recent media coverage on President Mbeki's stance on the epidemic, the emergence of Nelson Mandela's contribution to the policy debate, and efforts by dissident researchers to arm members of the ANC's leadership with literature claiming that HIV does not cause AIDS. On the latter topic, sources were reporting that the dissidents were advocating NOT testing blood for HIV at all.

Prof Coovadia went on to describe a paper he had heard presented at a closed NIH meeting held recently in Washington by a leading researcher on a study done in Rakai, Uganda. As the work is soon to be published, no references or details can be quoted. This study examines scenarios around the provision of treatment to all HIV-positive people in Africa as a preventative intervention to curb the horizontal spread of HIV (i.e, between sexual partners). Prof Coovadia noted that UN Secretary-General Kofi Annan, and others involved in gathering donations for the Global Fund for HIV/AIDS, TB and Malaria, want to procure antiretroviral drugs cheaply, if not free, for all African countries, for use as a broadly-based prevention strategy.

The theoretical background to this concept is that antiretroviral therapy lowers the viral load to levels that do not result in transmission of HIV to a sexual partner. The statistics produced in this study show that when the

viral load is markedly low, the risk of transmission is minimal. Also, fewer older men and women tend to become infected with HIV because of the comparative infrequency of coitus in older age groups.

The outlook for a vaccine solution for prevention is complex: even a highly effective vaccine would need 100% coverage in order to control the spread of HIV infection, which, with only 63% of South African children currently being vaccinated against measles, whooping cough, BSG and diphtheria (and even lower than the national average rates in KZN), is unlikely to be attainable. Similarly, antiretroviral treatment would need to reach coverage levels of between 60% and 75%; given that the US has only achieved 50% coverage levels to date, we in South Africa would need a massive effort around drug costs and roll-out systems to support a successful ARVT programme.

These scenarios seem to indicate that only a multi-pronged approach involving antiretroviral therapy, a vaccine, as well as treatments for opportunistic infections and for Herpes Simplex, would hold promise for an effective solution. Despite the obstacles inherent in such a process, Prof Coovadia felt it was important to provide people in Africa with hope, however slight its form might take.

Prof Quarraisha Abdool Karim suggested that the efficacy of ARVT should not be minimised in terms of, at the very least, prolonging life and maintaining the individual's productivity levels. She said one also needs to contextualise the timeframe, given that these are evolving biotechnologies with even minor impacts on susceptible patients contributing to the development of highly improved medications, productivity levels and mortality rates. So, while separate applications of these interventions would not necessarily offer simple solutions in the shorter term, researchers still hold to the positive potential that antiretroviral therapy, supported by other factors and interventions, can offer in controlling the spread of HIV infection in Africa.

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