

SYMPOSIUM REPORTS

HIV – GLOBAL AND LOCAL PERSPECTIVES

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The HIV symposium held at the Royal College of Physicians of Edinburgh on Tuesday 28 September provided a most varied programme, with topics which ranged from the science of HIV, to epidemiology and the effects of economics and the inequality of care. There were many eminent speakers and we were given the global perspective from those who had travelled from as far away as South Africa, Malawi and Zimbabwe.

SESSION 1: GLOBAL PERSPECTIVES

Professor Garnet (Professor of Sexually Transmitted Disease Epidemiology, Imperial College of Science, London, England) opened the symposium by reviewing the epidemiology of HIV on a worldwide level. He talked through methods of analysing HIV prevalence in order to predict the future trends in the HIV epidemic. The epidemic in heterosexuals in the UK is driven by people exposed outside of the country and is therefore at the moment not a self-sustained epidemic. Southeast Asia is now likely to be the drive for the future growth of the epidemic. In many areas of sub-Saharan Africa there has been a plateau in the prevalence. In a community-randomised trial in Manicaland, Zimbabwe there was evidence of general behaviour change¹ with a dramatic decline in incidence over time in those aged 15–24. It highlighted an important equality problem, as new HIV infections in this population are predominantly occurring in orphans and those made vulnerable by HIV.

Professor Benatar (Professor of Medicine, University of Cape Town, Cape Town, South Africa) gave an inspiring lecture which, as he promised, increased delegates' discomfort particularly by asking 'has healthcare lost its way'. He described the HIV pandemic as 'a symptom of the world we live in'. The disparity in healthcare is growing: 87% of the healthcare expenditure in the world is on 16% of the population who bear 7% of the disability-adjusted life years. He highlighted some of the problems in the field of research, where 90% of the disease expenditure is on diseases causing 10% of the global burden of disease. Sub-Saharan Africa has by far the largest needs, estimated at \$8.1 million per year for the treatment of HIV, Malaria and tuberculosis. Total world debt is presently \$100,000 billion and many African countries are enslaved by debt. Public health has only recently begun to look at the global environment. Professor Benatar explained the need to balance individual rights with collective rights and to take on board global responsibilities. He finished with a few glimmers of hope that he could see in present strategies

including the US Council on Foreign Relations Report, the Commission on Macroeconomics and Health, the Global Fund, the President's Emergency Programme for AIDS Relief and the '3x5' programme.

Dr Cowan (Senior Lecturer, Centre for Sexual Health & HIV Research, University College London, London, England & University of Zimbabwe, Zimbabwe) followed with a talk on effecting behavioural change. The relationship between sexual behaviour and risk of HIV and other STIs is not straightforward. She discussed the process by which one protective behaviour reduces perceived risk and inhibition and thereby increases other risk behaviour. Dr Cowan is presently based in eastern Zimbabwe, working on a community-randomised trial of a multi-component adolescent reproductive health programme. From her experience she explained the ways in which they were trying to affect behavioural change and the particular problems of measuring behavioural change in response to an intervention.

SESSION 2: CONTRASTING DAILY PRACTICE

Dr French (Wellcome Trust Career Development Fellow, Malawi-Liverpool Wellcome Trust Laboratories, Blantyre, Malawi) gave an insight into clinical practice in Africa and the present prospect for change with the initiatives to increase access to anti-retrovirals. The effect on clinical practice of a lack of diagnostic facilities was highlighted, with particular reference to non-typhi salmonella (NTS) bacteraemia. This presents with non-specific features, and blood cultures are of growing importance with the worsening problem of antimicrobial resistance to NTS. The interaction between HIV and malaria is a very critical one. In HIV-positive individuals there is an increased risk of severe malaria and death, and there is evidence of reduced effectiveness of anti-malarials including the artemesin derivatives. Primary prophylaxis strategies have been shown to have little effect on survival, with the exception of co-trimoxazole. In the last year with increasing access to anti-retrovirals there is renewed hope, but with this comes new challenges. Clinical difficulties ahead include the lack of facilities for monitoring of therapy with viral load and CD4 counts, drug toxicity in view of the different pharmacokinetic characteristics and the problem of immune reconstitution.

Dr Watkins (Consultant Physician, Infectious Diseases North Manchester General Hospital, Manchester, England) took the delegates on a most informative and

visual journey through the milestones of HIV and HIV treatment in the Western world since 1981. He then discussed the challenges ahead in patient care in the UK. These included maximising adherence, with discussion on once-daily regimes and lower pill burden. He also discussed the importance of preventing the generation of resistance, with an emphasis on the careful introduction of new agents.

SESSION 3: CURRENT SCOTTISH PERSPECTIVES ON HIV

Professor Goldberg (Consultant Head BBV/STI Section, Scottish Centre for Infection and Environmental Health, Glasgow, and Honorary Professor, Faculty of Medicine, University of Glasgow, Glasgow, Scotland) gave an insightful review of the epidemiology of HIV in Scotland, discussing the milestones of the disease from a clinical and public health perspective from 1984 to 2004. HIV awareness and harm reduction led to a dramatic decline in prevalence of HIV in injecting drug users (IDUs) in Edinburgh and Dundee and prevented an epidemic in the rest of Scotland. The incidence of HIV in IDUs is now nearly zero and hepatitis C is now the major public health problem. The incidence of HIV among gay men, however, has remained constant. The increasing incidence in heterosexuals is connected to individuals contracting HIV in African countries, particularly southeastern Africa. Professor Goldberg identified the present public health challenges which included the need for increased resources in view of growing numbers of HIV-positive patients and the control of increasing levels of high-risk behaviour in gay men and IDUs in the post-HIV awareness era.

Dr Wilks (Consultant, Infectious Diseases, Western General Hospital, Edinburgh, Scotland) on behalf of Dr Moyle (Associate Specialist, Chelsea and Westminster Hospital, London, England) gave an engaging talk entitled 'The challenge of the ageing HIV population.' With HIV patients surviving longer, there will be an increased need for exposure prone procedures and a broader spectrum of medications that may interact with the Highly Active Anti-Retroviral Therapy (HAART). In the HIV cohort there is an increased risk of developing a number of malignancies including lung cancer and testicular cancer. It is not yet apparent if this is as a direct result of HIV, or due to associated risk factors. Dyslipidaemia, glucose intolerance and peripheral lipodystrophy are becoming more prevalent as long-term adverse effects of HAART. The Data Collection on Adverse Events of Anti-Retroviral Drugs (DAD) study has shown HAART as an independent predictor of myocardial infarction² and the importance of this remains to be seen.

SESSION 4: PROSPECTS FOR AN HIV VACCINE

The Marjorie Robertson Lecture was given by Professor Sharp (Professor of Genetics, University of Nottingham, England) on the origins and evolution of HIV. He

discussed the evolutionary tree of the SIV and HIV viruses. He explained that HIV2 was tracked to the Sooty Mangabeys from west Africa, through at least five transmissions and HIV1 virus was tracked to Chimpanzees in west central Africa, through at least three transmissions. It is the M group of HIV1 which has spread globally and the origin of this group is thought to be pre-1930s.³ There is some evidence that humans are able to acquire a second infection over a year after the first, and it is now understood that there are HIV recombinants. This poses a problem when we consider the production of a vaccine. Also the rapid evolution of the virus has implications for vaccine development and drug resistance.

Professor Webber (Jefferiss Professor of Genito-urinary Medicine and Communicable Diseases, Imperial College, London, England) led on from Professor Sharp's lecture by presenting a review of the attempts-to-date to produce an effective vaccine against HIV. There have been great hopes for a vaccine, but approximately \$4 million and 20 years down the line much more is known about the science of HIV, a vaccine remains far off. Prevention of HIV infection through inducing sterilising immunity has been shown to be ineffective. The mystery of protective immunity continues to be studied, particularly looking at the highly exposed, persistently HIV-sero-negative individuals. Over the last five to six years there has been on-going work to attenuate HIV infection through inducing pre-existing cellular immunity and it is in this area in which there has been some progress.

REFERENCES

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- 3 Sharp PM, Robertson DL, Anderson JP et al. HIV1 nomenclature proposal. *Science* 2000; **288(5463)**:55–6.