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REPORT ON A VISIT TO THE USA AND THE INTERNATIONAL CONCERENCE ON AIDS IN ATLANTA - APRIL 14-17 1985

I attach my summary report of this visit for CMO. Further detailed information is available on most of the topics mentioned if required.

It is salutary to note that two years ago the cumalative number of AIDS cases in San Francisco was that of the present number in the UK.

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VISIT TO THREE CENTRES IN THE USA AND REPORT ON INTERNATIONAL CONFERENCE ON AIDS - ATLANTA APRIL 14-17

In the three centres San Francisco, Miami and New York the epidemiology of AIDS is different and as a result the approaches to it by the public health and medical authorities vary.

San Francisco

1. Ninety-eight per cent of the cases are homosexuals with only 0.6 per cent drug abusers. Up to the end of March 1985 a thousand cases of AIDS have been diagnosed since the first case in 1981. There is a population of at least 50,000 gay men in San Francisco and it is believed that twenty-five to thirty thousand have already been infected with the AIDS virus. Seventy-six cases of AIDS were reported to CDC in March 1985 and since the beginning of 1985 one death a day has been reported in the city.

2. There is one major centre at the San Francisco General Hospital dealing with all cases from the city [population 700,000] and also from neighbouring counties. Patients are seen in an out-patient clinic four days a week. There is one twelve bedded ward of single rooms which is solely devoted to nursing AIDS patients. Another ward will shortly be opened because of the pressure on the current accommodation and because recently patients have been nursed in other wards around the hospital. The emphasis is on maintaining patients with AIDS in the community as long as possible. In San Francisco patients spend 15 per cent of their illness in hospital whereas in New York they spend 40 to 50 per cent. The majority of AIDS patients die at home in San Francisco. There exists a very well organised and strong community support system which also provides accommodation for those who find themselves in difficulties.

3. Because of the necessity for a multi-disciplinary medical approach to the care of patients it is believed essential to have them cared for in a general hospital. By confining them to separate wards it has been possible to staff [the wards with people] who are familiar with the disease and understand the needs of the patients.

4. San Francisco County and California State have provided considerable financial support. There is a strong pressure group of homosexuals in the State who give a great deal of community support. A determined effort is being made to educate the homosexual community to modify their life style in order to cut down exposure to the AIDS virus. Facilities are being provided in peripheral clinics for testing for HTLV III antibody A study has just started of women contacts of patients with AIDS. This has been stimulated by a womans group and is being carried out at peripheral health clinics.

Miami

5. The Centre for the care of all AIDS patients in South Florida is at the County Jackson Memorial Hospital. A team of doctors, nurses, social workers and psychologists supervise the care of all AIDS patients admitted by other physicians. There is no one ward where AIDS patients are nursed. It was thought that it would be difficult to provide staffing for a ward of this type. Forty per cent of the AIDS patients are Haitian in Miami. About 20 infants born to mothers with AIDS or with AIDS related complex have developed AIDS.

6. The care of AIDS patients in New York is spread amongst its many hospitals. Forty per cent of AIDS patients in New York are drug abusers and there are also a high proportion of Haitians. Common policies for medical care have been reached through regular monthly meetings of physicians involved in the care of AIDS patients held under the auspices of the New York health commissioner. The city have recently set up their own hot line [other hot lines are run by the gay community] which has been formed to provide a backup for the HTLV III antibody test in the blood bank. Policy in New York is to dissuade at risk or concerned individuals from requesting tests unless they wish to be tested as part of a research project. This hot line undertakes to discuss the advantages/disadvantages of knowing the test result. It is expected to provide a backup for donors who are worried when they are informed that they are antibody positive.

Blood Banks at the Three Centres

7. Since tests for HTLV III antibody have been licensed they have been introduced into US blood banks voluntarily. The FDA is expected to make the test mandatory in about six months time. None of the blood banks are informing the donors who are found positive yet. Donors are required to sign a detailed questionnaire which tells them that their blood will be tested for HTLV III antibody.

8. In San Francisco a preliminary analysis of their early results shows inconsistency between the blood bank positive donors and confirmatory tests. Arrangements are being made for confirmation by an independent university department using Western Blot. The blood bank has been forced into agreeing to donations being dedicated for certain recipients. Blood banking is a higly competitive exercise in the US [nearly all blood donations are voluntary] and if San Francisco had not agreed to arrange for dedicated donations a neighbouring blood bank would have done so.

9. In Miami no analysis of positive donations has been undertaken. The Director was hoping that in due course there would be no requirement by the Public Health Service for blood donors to be told if they were antibody positive. [This view was not confirmed by Dr Petricianni FDA].

10. In New-York comparative testing of the diagnostic kits has shown the ENI test to be most reliable. It is evident that there is considerable variability in the specificity of the tests possibly due to the technique of testing.

Papers on Blood Transfusion at the Conference

11. Up to 15 March CDC had received reports of 125 cases of transfusion associated AIDS. Of these 33 cases were in New York and 29 in California. Cases have been reported in 25 States. A high proportion of these cases are in neonates or adults receiving transfusion for heart surgery. Fifty-three cases have been linked to donors in high risk groups 45 of these were tested for antibody and 38 found positive. HTLV III has been isolated from 22 of 25 of the sero positive high risk donors. Four of the donors have developed AIDS from between 1 to five and a half years after giving blood. Transmission has followed transfusion of whole blood, packed cells, platelets, and FPP. AIDS has taken an average of 13 months to develop in recipient children and 29 months in adults but the interval can be as much as 3 to 5 years. There seems to be evidence that self-deferral is having an effect in that since stricter requirements were introduced there have only been 15 cases of transfusion associated AIDS however this may be due to length of incubation of the infection.

12. In San Francisco 43 blood donors have developed AIDS since 1978. 211 recipients of donations or components of donations from these donors have been identified. 111 have died, 67 are known to be alive and 36 have been traced. Four of these recipients had AIDS, 18 were antibody positive and 14 had no antibody. 29 of the blood donors had donated before self-exclusion was introduced.

Implication of AIDS for Health Care Workers and Support Services

13. All centres have experienced objection by health care workers to caring for AIDS patients. However, because of the continued lack of evidence of any health care worker contracting either AIDS or evidence of infection with HTLV III there now seems to be less difficulty. There is constant education of health service staff and the general public about AIDS.

14. Specimens from patients with AIDS are handled in the same way as specimens from patients with hepatitis B. The same label is used for AIDS and hepatitis B specimens. In San Francisco the recommendations which were published in the New England Journal of Medicine 22 September 1983 are still followed but are slightly more laxly applied. Thus laboratory workers are now not required to use gloves to deal with specimens because it is believed that there is a greater risk of infection through skin softened by using gloves constantly. Hand washing is emphasised as the best protection both to staff on wards and in laboratories.

15. Class II cabinets are used for microbiology but not in other pathology disciplines. There are no restrictions on the embalming of patients who have died from AIDS. There have been problems with funeral Directors but again these seem to have been dealt with on an individual basis and undertakers reassured.

16. In New York an increase in tuberculosis has been noted and has been found to be associated with AIDS cases. There has also been an increase in the number of patients dying from pneumonia some of these have been due to tuberculosis and some to Pneumocystis carini in otherwise undiagnosed patients with AIDS. Because of the increased risk to staff in the public mortuary who have carried out many post mortems on such patients a serological study is to be undertaken. The Health Commissioner has been asked for an early report of this investigation.

Report of CDC Study on Health Care Workers at the Conference

17. The CDC study on health care workers exposed to blood and to needle stick injury started in August 1983 and has now enrolled 521 cases. It is intended to enrol cases for 3 years and survey them for 3 years with 3 months follow up. Informed consent has been obtained from all health care workers before tests are undertaken. The mean duration of follow-up is 10 months, 47% of the workers have now been followed for more than 12 months. Seventy per cent of the exposures in this study occurred during the primary care of AIDS patients. 50% of the workers exposed are nurses and the injuries occurred in the ward or patient room. 82% of exposures were to needle sticks, 9% were mucus membrane contamination. 47% were preventable exposures, 80 of the exposures were due to recapping needles and 70 were due to improper disposal of needles. 302 patients accounted for the all exposures and 92% of these patients had AIDS. There has so far been no evidence of sero conversion in the health care workers exposed.

Other subjects discussed at the Atlanta Conference

V III Antibody Test

18. Dr Petricianni described the FDA involvement in licensing these tests. FDA had a panel of eighteen sera from clinical cases of AIDS against which all kits were evaluated. Evaluations thereafter were carried out in the field by the manufacturers and then submitted to the FDA for approval. FDA will be requiring blood banks to test but currently all blood banks were testing voluntarily. When the test is mandatory it will be necessary to test all blood and plasma donated any found any found positive will have to be discarded and donors must be notified if repeatedly found positive. The types of confirmatory test used are optional. Medical evaluation of positive donors is recommended and they should be followed up. Possibly virus isolation should be attempted. It was stressed that voluntary exclusion of donors in high risk groups and their sexual partners must continue. An antigen test is being developed. Great emphasis was made that antibody tests were developed for the protection of the blood supply and should not be used as diagnostic tests.

19. Reports on the antibody test revealed that the sensitivity of the tests generally are in the region of 98 to 99% and the specificity is about 99.4% increasing to 99.7% on repeating the test. There was no agreement about the merit of the Western blot although it was being used as a confimatory test in some centres. The Western blot seems to be consistently insensitive at low levels of antibody which are detected by ELISA. Some centres, notably San Francisco, use an immunofluorescent assay.

20. There was one report from the floor of sera becoming negative after being repeatedly sero positive. It seems that variability of the test results is dependent on technique.

Heterosexual Transmission: Spread to Household Contacts

21. There was great emphasis made during first session of the conference about the evidence of heterosexual transmission of AIDS by the Director of the CDC task force Dr James Curran. Women who are drug abusers and recipients of infected transfusions get AIDS as do female sexual partners of haemophiliacs, bisexuals and Haitian males. There was some evidence of transmission from female prostitutes to heterosexual males but the sexual activities and or the use of drugs by these males was not always clarified. In a study of Haitians in Miami the 9 females with AIDS who were antibody positive all had antibody positive spouses whereas 8 males with AIDS had 7 female spouses who were antibody negative. In this latter study there was no evidence of spread of AIDS to household contacts even between siblings in a family where an infant had AIDS. This lack of evidence of transmission to household contact was also apparent in the studies reported of haemophiliac families. However, one study reported from Zaire claimed evidence of transmission of infection to household contacts. Their evidence was not clearly substantiated and many people thought it unreliable.

AIDS in Children

22. Children affected are those borne to mothers who are mainly drug abusers or Hiatians. Transmission occurs either during pregnancy or during parturition. There children have a very poor prognosis. Antibody positive women who become pregnant also have a poor prognosis.

HTLV III in the Brain

23. It is believed that the HTLV III itself is responsible for an encephalopathy. The titrs of virus in the brain patients is known to be high. Transmission of HTLV III to chimpanzees has been achieved by using brain material from AIDS patients.

Viability of HTLV III

24. Inactivation assessed by studies of T cell toxicity and reverse transcriptase activity has been achieved by the following agents.

Ethanol		20 per cent for 10 minutes
Cidex		0.01 per cent 60 minutes
Sodium Hyperchlorite		0.1 per cent for 60 minutes
Sodium Hydroxide		4 mm for 5 minutes
pH 2	but	Not pH 3
Formalin		0.1 per cent forty-eight minutes
Beta Propionolactone		1 in four hundred for one hour.
Heat for 56 degrees centigrade for 30 minutes		

25. A method of inactivation of HTLV III using ultra voilet light and a psoralen derivative was described. Development of a vaccine in this method of inactivation is being investigated.

26. Tri [n-Butyl] phosphate/sodium cholate, under investigation for sterilisation of Factor VIII, has been found to inactivate at least 4.5 logs of HTLV III infectivity.

Transmission of HTLV III to Experimental Animals

27. A virus and an antibody are detectable in chimpanzees within one month of being infected. One chimpanzee has been infected by the intravaginal route [but researcher did not know where the swab reached in the vagina]. One cage mate of a chimpanzee has shown an IGM response but this has not been confirmed again. No isolates of HTLV III have been made from saliva of the infected chimpanzees. Altogether 10 chimpanzees have been infected, 3 have developed lymphadenopathy. The virus has also been transmitted to rhesus monkeys marmosets and there is evidence of its transmission to mice. Antibody to HTLV III has been found in African green monkeys in Africa.

HTLV III In Other Body Fluids

28. The virus has now been isolated from saliva at two centres: 2/33, and 8/18 cases. It has also been isolated from semen at two centres 3/18, and 3/3 cases.