

24/8/83

FROM THE BRIEF ON AIDS (40A)

FILE 334/16 VOL 2

homosexual men. Major risk factors include a high number of sexual partners, the use of recreational drugs, exposure to faeces during sex and past history of syphilis, hepatitis A and other sexually transmitted diseases. [24,25] Clustering of cases in homosexual men and the reports of immunological abnormalities, lymphadenopathy and AIDS in the female sexual partners of male AIDS cases further support the concept of a sexually transmitted agent. [14,15,26]

Parenteral transmission is suggested by the cases that have occurred in intravenous drug abusers and haemophiliacs receiving Factor VIII concentrates. [8,9,10] Over the last six months the possibility of transmission by blood transfusion has become increasingly apparent with the description of AIDS in an infant who received platelets from an adult who later developed the disease. [27] An infectious agent has therefore been implicated which is sexually, parenterally and even perinatally transmitted with a long asymptomatic infectious incubation period varying from months in infants to two years in adults. Further evidence for this comes from the case cluster study in homosexual men in which sexual transmission may have occurred during the asymptomatic phase prior to the development of illness, [26] the occurrence of AIDS in heroin addicted prisoners after a lag period following incarceration [9] and the reports of the syndrome in infants born of mothers with or at risk of developing AIDS. [16]

Transmission of AIDS by transfusion and blood products may become a serious problem. For the present this will be, in the U.K., a very rare occurrence since AIDS is a new disease and is not yet established in the donor panel. Nevertheless, the potential for widespread transmission occurs in the large donor pools used in production of fractionated blood products. [28] At present 'surrogate tests' are being investigated as a means for high-risk donor exclusion (e.g. anti-HBc and anti-treponemal antibodies, Central Blood Laboratory Authority, 1983) but a serological test for AIDS is required. We think it is unlikely, at present, that prospective post-transfusion studies will provide sufficient sera and data for the development and assessment of any putative AIDS assay and therefore feel it more appropriate to undertake a detailed examination of this disease among male homosexuals. The advantages are simply that these patients are easily identified and the disease incidence would be high.

(ii) Immunology

An immune profile has been described in AIDS patients [29] which is characterised by anergy to common skin recall antigens, impaired lymphocyte transformation to mitogens and lymphopenia. Also noted are a decrease in the T helper (TH) subset with a relative increase in the T suppressor (TS) subset and resultant inversion of the TH/TS ratio. The viral, protozoal and fungal opportunistic infections are manifestations of this severe impairment of cell mediated immunity. Despite this depletion of an immunoregulatory T cell subset, humoral immunity is apparently preserved. In fact patients are found to have hypergammaglobulinaemia [30] autoimmune phenomena [31] and B cells in vitro which spontaneously produce immunoglobulins. [32] It has been suggested that this polyclonal hypergammaglobulinaemia and B cell hyperactivity is related to Epstein-Barr virus (EBV) reactivation. [32] There would also appear to be an association between the development of Kaposi's sarcoma in these patients and the HLA phenotype DR5. [5] Similar T cell abnormalities have been described in healthy homosexual men and in those with unexplained lymphadenopathy [30,33] and in healthy haemophiliacs. [34] Only prospective studies will establish whether these patients are at risk of developing AIDS. This disorder of immunoregulation has yet to be fully defined in terms of aetiology and mechanisms in cross sectional and prospective studies using specific functional immunological assays and interpreted in the light of the multiple infections which homosexual men are prone to.

(iii) Virology

Immunosuppression is a common accompaniment to viral infection in animals