Acquired Immune Deficiency Syndrome-EpidemioIogy and Etiology

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This mysterious disease was first reported in June 1981 by the Centre for Disease Control (CDC) United States, when 5 cases of Pneumocystis Carnii pneumonia presented in homosexual men. Within a couple of months the CDC received reports of Kaposi's Sarcoma (a rare malignant tumor) in homosexual males some of whom also had Pneumocystis Carnii Pneumonia. By mid 1983, over a thousand cases of AIDS had been reported 90% of these were from the large metropolitan cities of US.[1]
The CDC defines AIDS as "a Disease presenting with a defect in cell mediated immunity occurring in a person with no known cause for diminished resistance to that disease". Majority of patients are homosexual[2] or bisexual[3]. However heterosexual persons are also at risk[2]. AIDS has also been reported in Haemophiliacs[5-7] in patients receiving blood transfusion[8,9] from affected donors or those who subsequently develop the disease, in female sex partners of affected patients[2,10] in infants of affected mothers[11] and in Haitian refugees in the US[12]
The etiology of AIDS has yet not been clearly elucidated. The common denominator in all patients is a severe and selective cell mediated immune deficiency. Viruses have been proposed to cause AIDS because of the epidemiologic observations made, however their identity is subject to speculation. Attention has been focussed upon CMV, EBV, HBV and Lymphotropic retroviruses. CMV is known to be immunosuppressive and can be sexually transmitted, most of the homosexuals have serologic evidence of CMV infection. Moreover serologic evidence of CMV infection is present in Kaposi's Sarcoma. DNA has been demonstrated in the genome of Kaposi Sarcoma Cells[13]. EBV infects B rather than T lymphocytes. The high EBV antibody titres in most AIDS patients is probably an effect rather than the cause of immunedeficiency[14] Hepatitis B virus has been proposed as the agent responsible for post transfusion AIDS and AIDS in Haemophiliacs, HBV. DNA has been demonstrated in leucocytes of some patients with AIDS[15,16]. Of recent interest are the Lymphotropic retroviruses (HTLV I & III, Type D retrovirus, LAV & IDAV). Human T cell leukemia virus Type I can infect and suppress T cells. Anti HTLV antibodies have been demonstrated in AIDS patients and in a few cases HTLVDNA found in the T cell genome[18]. HLTV III related to HLTV I has also been demonstrated[19,20] French investigators have isolated Lymphadenopathy Associated Virus (LAV)[21], from a homosexual patient with prodromal AIDS, and subsequently found the same or similar virus (Immune Deficiency Associated Virus IDAV) in fully developed AIDS patients[22]
Virus particles resembling Type D retrovimses found in simian AIDS have been demonstrated from Lymph Node Biopsies in some patients[23]
Although a viral etiology seems highly probable a synergistic interplay of certain factors has been postulated.
Some homosexuals are genetically predisposed, demonstrated by an increased frequency of HLA-DR5 in them, as well as in patients with Kaposi Sarcoma[24]. Changing sexual practices particularly contacts with multiple anonymous partners increases the risk of repeated and persistent viral infection. Increased use of sexual stimulants like amyl nitrate which is immunesuppressive could play a part. The immunosuppressive effects of intravenously administered sperm in mice suggests that spermatozoa absorbed through abrasions may be imporLat in homosexuals with multiple partners[25].
In short AIDS could probably be looked upon as a multifactorial disease resulting from exposure of

genetically susceptible individuals to a variety of known and as yet undiscovered environmental agents.

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