

CONFIDENTIAL

Centers for Disease Control
Center for Infectious Diseases
Division of Viral Diseases

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By Dr. Mason in his
one-on-one meeting w/
Dr. Brandt - 4.23.8

The finding of antibodies to retrovirus antigens in the serum of many AIDS and LAS patients has focused investigation on the etiologic role of particular retroviruses in these diseases. Most recently, focus has been centered on a human retrovirus from France called lymphadenopathy virus (LAV). Based upon serologic studies done in collaboration with the Institut Pasteur (Chermann, Montagnier and colleagues) and NIH (Callb), it is clear that a high proportion of individuals with AIDS or LAS and a significant proportion of individuals belonging to AIDS risk groups have been infected with LAV or a related virus. Virus isolation studies initially done at the Institut Pasteur and now at CDC, indicate that infection with LAV virus per se is the basis for the seropositivity being measured. Now there is additional proof that LAV may be etiologically, rather than opportunistically associated with AIDS:

At CDC, a human retrovirus indistinguishable from LAV has been cultured from the blood of a blood donor-recipient pair, each of whom subsequently developed AIDS. The donor was a 22 year old homosexual male, the recipient a 36 year old woman who required blood during surgery, but was not a member of any AIDS risk group. The donor developed AIDS one month after donating blood; the recipient developed AIDS 13 months after the transfusion. The virus isolations from both were made from blood specimens drawn 13 months after the transfusion. The virus was isolated by cocultivation of patient lymphocytes with normal fetal cord blood lymphocytes and also by infection of the latter with cell free supernatants from the original patient lymphocyte cultures. The virus was characterized by:

- a) Reverse transcriptase activity characteristics
- b) In vitro response using conjugates of human IgG containing high LAV titers
- c) Electron microscopy
- d) Radioimmuno-precipitation and competitive radioimmunoassay

In each case the virus isolated from the donor-recipient pair were indistinguishable from LAV, and decidedly different from HTLV-I. For example, the neutralization reaction, which had an end point titer of 1:800 with the isolates and LAV (France), had an end point titer of less than 1:100 with HTLV-I. The nature of the isolates in test dramatically depicted in the electron micrographs of infected lymphocytes. Virus particles are identical to those described in the initial LAV characterization, and very different from HTLV-I particles. (The family of retroviruses is large and contains viruses with rather different properties--at this stage of investigation the CDC isolates, and LAV, most closely resemble a subgroup of retroviruses, called lentiviruses, a subgroup which includes equine infectious anemia virus and visna virus of sheep.)

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Carlene XCs of
this and
XC of the letter
from Mason to Health
Officers (on Wang this
morning by Barbara Hale)

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- a) Reverse transcriptase activity characteristics
- b) Immunofluorescence using conjugates of human IgG containing high LAV titers
- c) Electron microscopy
- d) immunoprecipitation and competitive radioimmunoassay

In each case the virus isolated from the donor recipient pair were indistinguishable from LAV, and decidedly different from HTLV-1. For example, the immunofluorescence reaction, which had an end point titer of [] with the isolates and LAV (France), had an end point titer of less than [] with HTLV-1. The nature of the isolates is most dramatically depicted in the electron micrographs of infected lymphocytes. Virus particles are identical to those described in the initial LAV

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