ARE ANIMAL RETROVIRUSES POTENTIAL CANDIDATES FOR AN AIDS VACCINE?

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Close genetic, antigenic, and biological relationships have been repeatedly demonstrated to exist between the human immunodeficiency virus (HIV) and several animal lentiviruses, such as the Maedi-Visna virus (MVV) (*4*), the caprine arthritis-encephalitis virus (CAEV) (*6*), the equine infectious anaemia virus (EIAV) (*7*), and the recently characterized bovine immunodeficiency-like virus (BIV) (*5*). The possible occurrence of HIV false-positive serological reactions following prolonged contacts of man (especially categories such as veterinarians, farmers, laboratory technicians, etc.) with animals infected with the abovementioned lentiviruses has been hypothesized (*2*). Further tests (so-called "3rd generation tests") such as Western blotting, nucleic acid hybridization *in situ* and *in vitro*, etc. have been emphasized in this relation (*3*).

Several experimental lines are currently under investigation in the attempt to obtain a safe vaccine against HIV: a) vector vaccinia viruses, such as poxvirus, for encoding, expression and subsequent vehicling of the two major virus envelope-associated proteins (gp 120 and gp 41), b) subunit vaccines containing gp 120 and gp 41 alone or in association with the virus major core proteins (vp 24 and vp 18), c) soluble forms of the HIV CD4 receptor molecule, or d) monoclonal antibodies against the HIV-binding N-terminal fragment of the CD4 molecule (*1*). So far, active immunization of primates or man with HIV-genetically and antigenically related animal lentiviruses (MVV, CAEV, EIAV, or BIV), or with antiidiotypic, recombinant and synthetic vaccines containing immunogenetic sequences from such viruses has not been extensively investigated. In this regard, the absence of any documented pathogenicity of such agents to man, along with their close genetic and antigenic relationships to HIV, seem to be both elements of great interest in suggesting a wider experimental and, hopefully, also practical utilization. If the hypothesis concerning prolonged human contacts with animals infected with these lentiviruses as a cause of false-positive serological reactions to HIV in man (*2*, *3*) would turn out true, synthetically-derived vaccines should permit avoiding confusion between contact-induced and immunization-induced seropositivity. It would be also of great help to consider that categories at risk for false-positive serological reactions to HIV (e.g. veterinarians, farmers, laboratory technicians, etc.) tend to be different from those at risk for AIDS.

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