CONCISE REPORT

Natural Antibodies in Sera From Japanese Individuals Infected With HTLV-I Do Not Recognize HTLV-III

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Seventy-one sera from Japanese individuals infected with human T cell leukemia virus type I (HTLV-I) were examined for the presence of antibodies to HTLV-III by an enzyme-linked immunosorbent assay (ELISA) and by a strip radioimmunoassay based on the Western blot technique. The sera were from 23 healthy carriers and from 48 patients, including 18 with smoldering adult T cell leukemia (ATL), 13 with chronic ATL, and 17 with acute ATL. All people tested lived in the southwestern part of Japan, a known endemic area for HTLV-I infection. Antibodies against HTLV-I were detected in all sera both by indirect immunofluorescent methods and strip radioimmunoassay using cell lysates. Six sera were reactive in the ELISA assay for HTLV-III. But these sera did not react specifically to HTLV-III–related proteins (p15, p24, gp41) when analyzed by strip radioimmunoassay. Our data suggest that coincidental infection of HTLV-I and HTLV-III is quite rare in Japan.

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RESULTS AND DISCUSSION

All 71 sera were positive for anti–HTLV-I antibody by IF assay. The titer of antibody was defined using serially diluted sera (Fig 1). Antibodies to HTLV-I–related proteins (p19, p24, p28, gp46) were found in all the sera by strip radioimmunoassay using cell lysates of the HTLV-I–producing cell line, MT-2, as described previously. The profiles of recognized proteins were similar for most of the patients (Fig 2A), although some bands could not be seen, especially in sera of patients with acute ATL (unpublished observations, February 1985).

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Submitted April 15, 1985; accepted July 10, 1985.

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0006-4971/85/6603-0046$03.00/0
Fig 1. Titer of anti-HTLV-I antibody by IF assay and results of ELISA assay for anti-HTLV-III antibody. The titer of anti-HTLV-I antibody was determined using serially diluted sera. (□) indicates nonreactive and (■) indicates reactive for anti-HTLV-III in the ELISA assay.

ary, 1985). Samples from six were reactive in the ELISA for HTLV-III (Fig 1). However, the absorbance readings of all these sera were less than five times the average of the negative control readings, in contrast to the very high readings that have been frequently observed using sera from patients with hemophilia (data not shown). Recently Weiss et al called cases with similar absorbance readings “borderline” in their extensive studies on ELISA for HTLV-III.20 We think that the latter possibility is less likely because there is no clear association of the titer of anti-HTLV-I and the results in the ELISA for anti-HTLV-III (Fig 1). Nevertheless, the extent of the immunologic relationship between each protein of HTLV-I and HTLV-III has not yet been fully explored using natural antibodies.

The low frequency of antibodies to HTLV-I in patients with AIDS in the United States has been already reported.23 Our results suggest that concomitant infection with HTLV-III is rare in individuals infected with HTLV-I in Japan as well. Although the number of sera examined is small, the absence of anti–HTLV-III antibodies in the sera from patients with aplastic anemia who received multiple blood transfusions suggest that HTLV-III is not naturally prevalent in Japan.

ACKNOWLEDGMENT

We are indebted to Ms Andrea Jennings for her excellent technical assistance.
LACK OF HTLV-III ANTIBODIES IN ATL

REFERENCES


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