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Seroprevalence of Parvovirus B19 among HIV-1-Positives in Japan

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Human parvovirus B19 (B19) is a causative agent of erythema infectiosum (fifth disease). It infects erythroid progenitor cells and thereby causes acute red cell aplasia in patients under hematopoietic stress (1). As HIV-1 infected patients are often placed under hematopoietic stress by factors such as zidovudine therapy, we examined seroprevalence among HIV-1 seropositives.

A total of 258 HIV-1 seropositives treated in our hospital were examined for the presence of anti-B19 IgG and IgM antibodies by using recombinant VP1 and VP2 coated microplates for ELISA (Denka Seiken Co. Ltd., Tokyo) (2). Hemophiliacs, 113 cases were aquired HIV-1 infection through contaminated blood products. The remaining 145 were probably infected via sexual routes.

The positive rate for anti-B19 IgG was 96% (108/113) for the former group and 50% (73/145) for the latter group (Table). The difference was significant ($P < 0.001$ in χ square test). The seroprevalence of B19 IgG in the non-hemophiliac group, 50%, was almost the same as in the healthy population in Japan (2). The anti-B19 IgG positives among the latter group were tested for anti-B19 IgM, but all were negative.

Our result showing the higher seroprevalence of anti-B19 among hemophiliacs is in agreement with previous reports (3, 4).

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Table. Patients' profile and seroprevalence of anti-B19 IgG

| Patients | Hemophiliacs (n=113) | Non-hemophiliacs (n=145) |
|-----------------------------|----------------------|--------------------------|
| Age (year) | 13-53 (27.8)* | 21-68 (37.4)* |
| Male/Female | 111/2 | 125/20 |
| CD4 Counts (cells/ μ l) | 1-809 (226)* | 1-741 (252)* |
| Hemoglobin (g/dl) | 7.9-18.0 (13.5)* | 6.2-16.6 (13.2)* |
| Anti-B19 IgG positives (%) | 108/113 (96) ** | 73/145 (50)** |

*Mean value **Number of positives in total

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