

Prevalence of HTLV-III antibody among volunteer blood donors in Taiwan

Each year, approximately 400,000 units of blood are collected from volunteer donors by the four regional centers of the Republic of China Blood Donor Association (BDA). These centers, located in Taipei, Taichung, Tainan, and Kaohsiung, collect 41%, 22%, 13%, and 23% of the Association's blood, respectively, and the total accounts for approximately 75% of all blood used in Taiwan.

To determine the prevalence of antibody to human T-cell lymphotropic virus, Type III (HTLV-III) among volunteer blood donors in Taiwan, serum from 15,000 BDA donors collected during the period March 17 to April 7, were tested by enzyme-linked immunosorbent assay (EIA). The sample was representative of the proportion of blood collected annually by each of the four regional centers. Since specimens were collected over a short time period, care was taken to ensure the sample was representative of the total annual age distribution of donors; special age groups (e.g. students) are targeted for blood drives during certain months and account for up to 30% of all donors annually. After collection and separation by centrifugation, serum samples were transported at 4°C to the National Institute of Preventive Medicine for testing according to manufacturer's specifications (Abbott Laboratories). Specimens initially positive by EIA (mean absorbance ratio >1.0) were retested, and those repeatably EIA-positive were sent to two independent laboratories in the United States (U.S.) for Western blot (WB) confirmation.

The results by collection center are shown in Table 2. Of 15,000 specimens tested, 156 (1.04%) were initially reactive, and 23 (0.15%) were repeatably reactive. None of the repeatably reactive specimens, however, were WB positive.

Reported by the R O C Blood Donor Association; the National Institute of Preventive Medicine, and the Bureau of Disease Control, Department of Health, Executive Yuan

Table 2. Results of HTLV-III screening among 15,000 volunteer donors of the Republic of China Blood Donor Association.

Collection Center	No. tested	No. initial positive	No. repeat positive	No. WB positive
Taipei	6,200	68(1.10%)	10(0.16%)	0
Taichung	3,300	19(0.58%)	4(0.12%)	0
Tainan	2,000	36(1.80%)	4(0.20%)	0
Kaohsiung	3,500	33(0.94%)	5(0.14%)	0
Total	15,000	156(1.04%)	23(0.15%)	0

Editorial note: Although transfusion-associated acquired immunodeficiency syndrome (AIDS) presently accounts for less than 2% of all reported AIDS cases in the U.S.¹ The risk of transmitting this disease to innocent recipients of blood and blood products has aroused significant public concern. The American Red Cross and other blood collection centers in countries where AIDS is prevalent have begun to routinely screen all blood to minimize the risk of transfusion-associated AIDS. The results of screening by 155 centers in the U.S. through June 15, 1985, revealed a repeat EIA-positive/WB-positive rate of 0.25%.² In contrast, the prevalence of HTLV-III antibody among the BDA population in Taiwan is presently less than 1/15,000 donors, or 0.007% (upper 95% confidence limit = 0.02%).

Although we cannot conclude from these data that there is no risk of transfusion-associated AIDS in Taiwan, the risk appears to be low and routine screening for HTLV-III antibody in blood from volunteer donors is not immediately warranted. This situation could change, however, and it will be necessary to repeat this study periodically to reassess the prevalence as well as the cost of screening.

It is important to point out that blood from paid donors, which represents about 25% of all blood consumed in Taiwan, was not included in this study. This population is probably quite different from the BDA donor population and may have a higher prevalence of HTLV-III. A separate study to determine the prevalence of HTLV-III in this important group is planned.

References

- 1 Centers for Disease Control. Update: Acquired immunodeficiency syndrome--United States MMWR 1986;35:17-20
- 2 Centers for Disease Control. Update: Public health workshop on human T-lymphotropic virus type III antibody testing--United States MMWR 1985;34:477-8

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