Short Communication

SPORADIC CASES OF CARRIERS OF HUMAN T-LYMPHOTROPIC VIRUS TYPE 1 IN SOUTHEAST ASIA

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SUMMARY: Sera obtained from 3,472 persons in Malaysia, Thailand, Philippines and Indonesia were tested for the presence of antibody to adult T-cell leukemia-associated antigen by the gelatin particle agglutination test and indirect immunofluorescence. Among these, only two seropositives were identified. One was a 30-year-old male Malaysian of Indian origin. The other was a 42-year-old female Thai who resided in Bangkok. These results suggested that the infection of human T-lymphotropic virus type 1 might not be endemic in these countries.

A human retrovirus, named adult T-cell leukemia virus (ATLV), is known to be associated with adult T-cell leukemia (ATL), an endemic disease in south-western parts of Japan (1). ATL-associated antigen (ATLA) was detected in ATLV-carrying cell lines by immunofluorescence (2), and antibody to ATLA (anti-ATLA) was found not only in most patients with ATL but also in considerable number of healthy adults in ATL-endemic areas (1). Subsequently, healthy adults having anti-ATLA in their sera were shown to be carriers of ATLV in their peripheral lymphocytes (3). Recently, ATLV was reported to be similar to human T-lymphotropic virus (HTLV-I), isolated from a patient with cutaneous T-cell lymphoma (4). Seroepidemiologic studies have shown...
that HTLV-I infection is endemic not only in Japan but also in West Indies (5) and in Africa (6). It is interesting to find whether the incidence of HTLV-I infection among people in countries neighboring Japan is high or not. Survey for the incidence of HTLV-I infection has already been performed in mainland China (7,8), Korea (7), Indonesia (7) and Taiwan (7,9), and HTLV-I carriers were found only in Taiwan. So far no report has appeared on the incidence of HTLV-I infection among people in Malaysia or Thailand. To study further on the incidence of HTLV-I infection in Southeast Asia, we tested sera from 3,472 persons in Malaysia, Thailand, Indonesia and Philippines for the presence of anti-ATLA. The number and the age distribution of those persons are shown in Table I. For preliminary screening for anti-ATLA, the gelatin particle agglutination test was used (10). Indirect immunofluorescence with acetone-fixed MT-1 cells as antigen was employed to confirm the presence of anti-ATLA (2). One to five, in some cases 1:10, dilutions of sera were used for indirect immunofluorescence.

Sera tested were from healthy blood donors and healthy pregnant women in Malaysia, from outpatients of Ramathibodi Hospital, Thailand, and from outpatients of University of Philippines General Hospital. Blood samples were taken from residents of Jakarta, Central Java, Sulawesi and Flores, Indonesia, at their health check.

In the gelatin particle agglutination test, 164 of 3,354 exhibited positive results but, by immunofluorescence, only 2 of 164 were true positive. Sera from 118 individuals in Thailand were tested only by immunofluorescence. One of the true seropositives was a 30-year-old male Malaysian of Indian origin, whose parents immigrated to Malaysia from Trivandrum, Kerala State, India, about 50 years ago. The other seropositive was a 42-year-old female Thai residing in Bangkok.

Hinuma et al. (7) reported that none of the sera obtained from adults in Indonesia or Philippines was positive for anti-ATLA. Our results coincided with theirs. In their study, three HTLV-I carriers were found in Taiwan but only one in mainland China and none in Korea. These carriers found in Taiwan were Chinese but the one in mainland China was Japanese. In the study by Zeng et al. (8), among 6,884 Chinese in mainland China found was only one HTLV-I carrier, whose husband had been found to be an HTLV-I carrier. Pan et al. (9) reported that 0.9% of Han Chinese in Taiwan had anti-ATLA in their sera, whereas none of aborigines in Taiwan had anti-ATLA.
### Table I. Age distribution of people tested for anti-ATLA in their sera

<table>
<thead>
<tr>
<th>Place</th>
<th>0 - 20</th>
<th>20 - 29</th>
<th>30 - 39</th>
<th>40 - 49</th>
<th>50 - 59</th>
<th>60 -</th>
<th>unknown</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysia</td>
<td>43</td>
<td>685</td>
<td>353</td>
<td>78</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>1,184</td>
</tr>
<tr>
<td>Thailand</td>
<td>34</td>
<td>244</td>
<td>168</td>
<td>100</td>
<td>107</td>
<td>93</td>
<td>284</td>
<td>1,030</td>
</tr>
<tr>
<td>Philippines</td>
<td>105</td>
<td>188</td>
<td>146</td>
<td>132</td>
<td>109</td>
<td>101</td>
<td>0</td>
<td>781</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3</td>
<td>352</td>
<td>82</td>
<td>19</td>
<td>20</td>
<td>1</td>
<td>0</td>
<td>477</td>
</tr>
<tr>
<td>Total</td>
<td>185</td>
<td>1,469</td>
<td>749</td>
<td>329</td>
<td>261</td>
<td>195</td>
<td>284</td>
<td>3,472</td>
</tr>
</tbody>
</table>
They assumed that HTLV-I could have been transmitted from Japanese to Chinese in Taiwan during the period when Taiwan was occupied by Japan. In our present study, we tested sera from Chinese living in Malaysia for the presence of anti-ATLA, but none of them possessed anti-ATLA. This result was consistent with the presumption by Pan et al (9). In conclusion, it can be said that among Asian countries other than Japan, only Chinese people who had very close contact with Japanese contracted HTLV-I infection, and that in Asia, Japanese is the only race that has succeeded vertical transmission of HTLV-I from generation to generation. However, still there is a possibility to find out a focus of HTLV-I infection in the west coast of India, for example Kerala State.

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REFERENCES