

LETTER TO THE EDITOR

GEOGRAPHICAL CONSIDERATIONS ON HAM/TSP IN JAPAN

Sir,

Based on a comparative analysis, we recently reported the presence of subclinical differences among patients with HTLV-I associated myelopathy/tropical spastic paraparesis (HAM/TSP) from different areas of the world⁶. This fact called our attention because some unidentified environmental cofactors are believed to be important for leading the carriers to the clinically manifest disease^{3,6}. In this regard, we would like to comment about an interesting relationship between the geographical distribution of HAM/TSP and some climatological conditions present in Japan, which we observed while living and researching several years on this entity in this country^{4,7}. So far we know such correlation has not been reported in the literature of HAM/TSP.

On one hand, extensive epidemiological studies performed in Japan on HAM/TSP showed that the main group of patients either born or lived in southern Japan, mostly around the Kyushu Island⁹. In fact, 8 of 9 prefectures with the highest prevalence of HAM/TSP were located in this Latter Island⁹; and this situation has not changed after 10 years of research^{8,11}.

On the other hand, it is known that Japan is located between 45°31' latitude north and 20°25' latitude north, and it allows this country to possess temperature and subtropical climates. Because of this geographical location, in southern Japan the winter is warmer and the summer is hotter than the rest of the country^{1,2}. Likewise, along with the four seasons known elsewhere, in Japan, there is a particular one that appears around June, every year^{1,2,10}. It is called "Baiu" or "Tsuyu"^{1,2,10}. Interestingly, this "substation" is also better appreciated to the south of Japan, and is characterized by heavy rains, and continuous days with high humidity^{1,2} (in some of these areas this weather is also present during the summer). The amount of precipitation, in inches, differs notably between cities within Japan, and there is much more rainfall in the southwestern than in the northeastern as commented:

Sapporo: 42.9; Tokyo: 40.6; Kagoshima: 67.9^{1,2,10}. It has also been demonstrated that the distribution of solar radiation in Japan seems to be more affected by the meteorological conditions than the location of Japan between the latitude and longitude known¹⁰; and, these climatological, meteorological, and geographical conditions do not fluctuate from year to year in a substantial manner¹⁰.

Thus, we found the above similarities between the climatic conditions and the distribution of HAM/TSP in Japan extremely interesting. Accordingly, we believe that the correlation between those sectors with most sunny days, heavy rainy season, and humidity and the distribution of HAM/TSP in Japan should not be taken by chance. Cultural, nutritional, folk, and any other habit present among these populations could be developed secondarily to the conditions already explained; and these facts together might play a role in disease evolution among these HTLV-I carriers⁵. We believe that these geographical, meteorological, and epidemiological "coincidences" should be kept in mind in further studies because it could help us to clarify a little more the pathogenesis of HAM/TSP not only in Japan, but also in other areas of the world where this entity is considered prevalent.

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