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COMUNICAÇÃO

HTLV-II AND A NEW ENDEMIC AREA FOR HTLV-I IN BRAZIL

Edson Duarte Moreira Júnior, William Harrington Júnior, Terezinha Tupinambá Ribeiro, Ailton Melo, Carlos Brites, Roberto Badaró, Priscila Swanson and Helen Lee

Human T-cell leukemia virus type one (HTLV-I) is associated with adult T-cell leukemia/ lymphoma (ATL) and tropical spastic paraparesis (TSP). HTLV-I is endemic in Southwestern Japan, Central Africa, and the Caribbean basin. Human T-cell leukemia virus type two (HTLV-II), another virus related to HTLV-I, has been linked to two cases of an atypical variant of hairy cell leukemia[4]. HTLV-II has been identified in IV drug abusers in the United States[7].

HTLV-I infection has also been reported in some populations in Brazil[1 2 5] .Salvador, the capital of the State of Bahia, is a city of nearly two million inhabitants, and until 1763 was the major site of slave trade in Brasil. Like the Caribbean basin, the population in Bahia is roughly 80% black or racially mixed. We studied the prevalence of HTLV-I and HTLV-II in several groups in Salvador and another inner city in Bahia, Jacobina.

During 1990, sera were obtained from the following groups: 1) a random cross section of 129 patients admitted to a hospital which cares for the lower socio-economic classes; 2) 90 patientes with tuberculosis: 3) 88 patients with AIDS; 4) 14 patients with myelopathy; 5) 16 patients with leukemia/lymphoma; 6) 90 blood donors; 7) 90 pregnant women; 8) 103 health care workers and 9) 44 healthy adults from Jacobina, an endemic area for leishmaniasis.

Antibodies to HTLV-I/II were detected with a commercially available enzyme immunoassay (EIA) (Coulter Laboratories, Hialeah, FL). EIA repeatedly reactive samples were further confirmed by a new dot blot confirmatory immunoassay using highly purified HTLV-I viral and recombinant proteins as an antigen source (Abbott Laboratories, North Chicago, IL). Samples were considered serologically positive if antibodies against both the gag (p24) and env (p21E) gene products were present, according to American Health Services recommendations for laboratory techniques[6]. Confirmed samples were also tested for antibodies to HTLV-I or II using a series of synthetic peptide-coated polystyrene beads in a solid phase EIA (Abbott).

This study demonstrated a relatively high prevalence of antibody to HTLV-I (1.8%) among adults representig the general population in Bahia (Table 1). This rate is higher than that reported in blood donors in the United States (0.025%) [10], and in Britain (0.01%)[9]. And, it is similar to antibody rates observed in African population in Gabon (3.9%), Kenya (1.7%), Liberia (1.6%), Nigeria (2.6%), Senegal (1.2%) and Zaire (3.2%) [3]. This similarity, presumably, reflects the African origin of the population in Bahia.

A high prevalence of HTLV-I infection was detected among patient groups, regardless of whether their diseases were HTLV-I related or not. There was a higher prevalence of HTLV-I infection in tuberculosis patients (11%) compared with the healthy population (1.8%), $p < 0.001$. However, it remains to be determined whether active tuberculosis, through transient immunosupression and/or antigenic T-cell stimulation causes a recrudescense of latent HTLV-I infection previously undetectabel serologically; or whether HTLV-I cause a general or specific defect which favors reactivation of tuberculosis among tuberculous infected persons. Further studies are needed to assess these hypotheses.

HTLV-I induced mitogenic stimulation increases the HIV-1 production from the peripheral blood leukocytes *in vitro*[11]. The increased seroprevalence

Laboratório de Retrovírus, Hospital Universitário Professor Edgard Santos, Universidade Federal da Bahia, Salvador BA, Brasil and University of Miami, Cornell University Medical College, New York, Abbott Laboratories, North Chicago, IL USA.

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Address, to correspondence: Dr. Roberto Badaró, Laboratório de Retrovirus / HU Prof. Edgard Santos/ UFBA. R João das Botas s/n, 6° andar. 40110-160 Salvador, BA.

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of HTLV-I in the AIDS group may thus result from 2 situations: either HTLV-I latent infection enhaces replication of HIV leading to immunological imbalance and eventually to clinical AIDS, or HIV infection activates a latent, serologically silent, HTLV-I infection. Among the AIDS patients, the coinfection with HTLV-I/II was significantly more frequent in intravenous drug abusers(IVDA) 14/19 (74%) than in the homosexual/bisexual men 6/50 (12%), $p < 0.00001$. In contrast with some reports from the U.S.[7] and U.K.[8], that showed HTLV-II to be more frequent than HTLV-I among IVDA, we found in 14 patients coinfected with HIV_1/HTLV: 13 (93%) with antibodies to HTLV-I, and only 1 (7%) with HTLV-II infection. The significance of this difference, as well as the clinical and biological consequences of the high prevalence of HIV_1 and HTLV-I/II coinfection remains to be determined.

The presence of HTLV-I antibodies in four patients with myelopathy suggestive of TSP, and in three patients with suspected ATL, confirms that these two clinical entities, already reported previously[2,5] do exist in Brazil.

We conclude that Salvador is a new endemic area for HTLV-I, and we reported on the first three confirmed cases of HTLV-II in Brazil. Larger epidemiologic studies of HTLV-I and II in Brazil are warranted.

Table 1 - Prevalence of antibodies to HTLV-I/II among selected groups in Bahia, Brazil, 1990.

Groups	N° tested	N° positive (%)	HTLV typing		
			I	II	Equivocal/ Negative
Patient groups					
Hospitalized patients (randon)	129	25 (19.4)*	18/20	1/20	1/20
Tuberculosis	90	10 (11.1)	7/10	1/10	2/10
Myelopathy	14	4 (28.6)	4/4	0	0
Leukaemia/lymphoma	16	3 (18.8)	3/3	0	0
AIDS/ARC/HIV+	88	20 (22.7)	15/20	1/20	1/20
Healthy populations					
Health care workers	103	2 (1.9)	2/2	0	0
Blood donors	90	1 (1.1)	1/1	0	0
Pregnant women	90	2 (2.2)	2/2	0	0
Adults from Jacobina	44	1 (2.3)	1/1	0	0
Total	664	68 (10.2)	53/63	3/63	7/63

* 5 confirmed samples were not available for typing.

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