

LETTER TO THE EDITOR

UNPREDICTED HTLV-1 INFECTION IN FEMALE SEX WORKER FROM IMBITUBA, SANTA CATARINA, BRAZIL

March 30, 2006

Dear Sir,

Recently, some of us presented data concerning HIV frequency in female sex workers (FSW) from the port city of Imbituba, Santa Catarina (SC), Southern Brazil¹⁰. Out of 90 FSW, six (6.7%) were found to be HIV-positive, and significant association were found between HIV infection and the number of clients attended per day ($p = 0.008$), and sexual relations without frequent use of condoms ($p = 0.015$). Now, in order to add some information concerning to other human retroviruses (human T-lymphotropic virus type 1 - HTLV-1, and human T-lymphotropic virus type 2 - HTLV-2) which share the same routes of virus transmission/acquisitions (i.e., mother-to-child transmission, sexual contact, blood transfusion, contaminated needles sharing among injecting drug users - IDU), we conducted the present study. Using enzyme immunoassays (EIA) screening tests ((Vironostika™ HTLV-I/II, BioMeri ux, Bostel, The Netherlands, and Murex™ HTLV-I+II, Abbott, Dartford Kent England, UK), and Western Blotting (WB) confirmatory test (HTLV BLOT 2.4™, Abbott Murex, Singapore System, Abbott, Delkenhein, Germany), we were able to detect one case of HTLV-1 infection. The socio-demographic as well the comportamental characteristics of the HTLV-1-infected FSW are as follow: female of 25 years of age, white color, birth place in Imbituba, four-year old son who was breastfed, incomplete elementary school, no steady partner, one month in prostitution, one client per day, vaginal and oral sexual practices, no sex during menses, no use of condoms, use of alcohol, sex with IDU, and no blood transfusion. All these data were obtained after she signed the informed consent, and based on the interview and the answers of a questionnaire. Subsequently, when she returned to receive the HIV and HTLV serological results, another blood sample was collected and confirmed HTLV-1 infection. At this time, she was attended by physicians and no HTLV-1-associated disease was detected. On the other hand, she was pregnant, and she was advised not to breastfeed her offspring. Since then, she has been visited by the non-governmental organization called Industry of Solidarity (ISO) working group, and medical care has been conducted in an outpatient site in Tubar o, SC, Brazil.

As previously described, HTLV-1 is associated with several diseases such as adult T-cell leukemia/lymphoma (ATL), HTLV-1-associated myelopathy (HAM) also known as tropical spastic paraparesis (TSP), infective dermatitis in children, and uveitis⁹. Differently to those occurring in elderly patients from Japan where HTLV-1 has been endemic, in Bahia, Brazil HTLV-1 has been detected in younger people, including some cases diagnosed in adolescents who presented severe eczema during childhood^{1,3}.

In Brazil, the great number of HTLV-1 and HTLV-2 seropositive individuals^{5,7} besides the severity of HTLV-1-associated diseases, prompted the government and physicians to elaborate in 2004, a guideline for counseling persons infected with HTLV-1 and HTLV-2⁴. Of note, Santa Catarina presents the lowest prevalence rate of HTLV-1/2 in Brazil, estimated in 0.4/1,000 inhabitants⁵.

We do not know the means of HTLV-1 acquisition by this FSW from Imbituba, SC, but since she denied the use of intravenous illicit drugs and previous blood transfusion, and because she does not belong to HTLV-1 endemic populations from Brazil or elsewhere, we could speculate that the sexual practices (vaginal and oral sex without use of condom) was the major via of virus acquisition. In accordance to this, during the interview she mentioned the presence of ulcers in vagina, which could propitiate the virus entrance during a sexual contact with an HTLV-1-infected man.

Several reports pointed unprotected sexual contact mostly with IDU, and histories of sexually transmitted diseases as risk factors for acquiring such retroviruses^{2,7-8}; these seem to be the causes of infection in the index case. Interestingly, this FSW resulted HIV-1-noninfected; in spite of this, she was counseled regarding HIV-1, HTLV-1 and HTLV-2 infections, especially concerning sexual and vertical transmission^{2,4,6}.

Adele CATERINO-DE-ARAÚJO(1),
Elizabeth SANTOS-FORTUNA(1),
Mariana Cavalheiro MAGRI(1),
Fabiana SCHUELTER-TREVISOL(2)
& Marcos Vinicius da SILVA(2,3)

- (1) Se o de Imunologia, Instituto Adolfo Lutz, S o Paulo, SP, Brasil.
- (2) Universidade do Sul de Santa Catarina, Tubar o, Santa Catarina, Brasil.
- (3) Instituto de Infectologia Em lio Ribas, S o Paulo, SP, Brasil.

Financial Support: Instituto Adolfo Lutz.

Correspondence to: Dra. Adele Caterino-de-Araujo, Instituto Adolfo Lutz, Se o de Imunologia, Av. Dr. Arnaldo 355, 11  andar, 01246-902 S o Paulo, SP, Brasil. Phone/fax: 55-11-30682898. E-mail: caterino@ial.sp.gov.br

REFERENCES

1. BITTENCOURT, A.L. - Adult T-cell leukemia/lymphoma (ATL) in Bahia, Brazil. **Braz. J. infect. Dis.**, **9**: 437-438, 2005.
2. BITTENCOURT, A. - Vertical transmission of HTLV-I/II: a review. **Rev. Inst. Med. trop. S. Paulo**, **40**: 245-251, 1998.
3. BITTENCOURT, A.L.; DOURADO, I.; FILHO, P.B. *et al.* - Human T-cell lymphotropic virus type 1 infection among pregnant women in Northeastern Brazil. **J. acquir. immune Defic. Syndr.**, **26**: 490-494, 2001.
4. BRASIL, Ministério da Saúde, Secretaria de Vigilância em Saúde, Programa de DST e Aids - **Guia de manejo clínico do HTLV / Ministério da Saúde, Secretaria de Vigilância em Saúde, Programa Nacional de DST e Aids**. Brasília Ministério da Saúde, 2003. (Série A. Normas e Manuais Técnicos No. 3 - CN-DST e Aids).
5. CATALAN-SOARES, B.; CARNEIRO-PROIETTI, A.B.F.; PROIETTI, F.A. & INTERDISCIPLINARY HTLV RESEARCH GROUP - Heterogeneous geographic distribution of human T-cell lymphotropic viruses I and II (HTLV-I/II): serological screening prevalence rates in blood donors from large urban areas in Brazil. **Cadern. Saúde públ. (Rio de J.)**, **21**: 926-931, 2005.
6. CATERINO-DE-ARAUJO, A. & SANTOS-FORTUNA, E. - No evidence of vertical transmission of HTLV-I and HTLV-II in children at high risk for HIV-1 infection from São Paulo, Brazil. **J. trop. Pediat.**, **45**: 42-47, 1999.
7. DOURADO, I.; ANDRADE, T.; CARPENTER, C.L. & GALVÃO-CASTRO, B. - Risk factors for human T cell lymphotropic virus type I among injecting drug users in Northeast Brazil: possibly greater efficiency of male to female transmission. **Mem. Inst. Oswaldo Cruz**, **94**: 13-18, 1999.
8. GOTUZZO, E.; SÁNCHEZ, J.; ESCAMILLA, J. *et al.* - Human T cell lymphotropic virus type I infection among female sex workers in Peru. **J. infect. Dis.**, **169**: 754-759, 1994.
9. MANN, A.; HISADA, M. & LA GRENADE, L. - Human T-lymphotropic virus type I infection. **Lancet**, **353**: 1951-1958, 1999.
10. TREVISOL, F.S. & SILVA, M.V. - HIV frequency among female sex workers in Imbituba, Santa Catarina, Brazil. **Braz. J. infect. Dis.**, **9**: 500-505, 2005.

Received: 30 March 2006

Accepted: 5 July 2006