

HTLV-1 proviral load in vaginal fluid correlates directly with proviral load in peripheral blood mononuclear cells of infected women

Authors:

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Background:

Proviral load has been suggested as a predictor for the development of HTLV-1-associated diseases. In Salvador, Brazil, the prevalence of HTLV infection is higher in women, and sexual intercourse has been described as the main route of transmission in the general population. The aim of this study was to quantify the proviral load in vaginal fluid and evaluate whether it is correlated with the proviral load in peripheral blood mononuclear cells (PBMC).

Methods:

HTLV-1-infected women were consecutively selected in the multidisciplinary center for HTLV in Salvador-Brazil. All subjects underwent gynecological examination to obtain cervicovaginal fluid and venipuncture for blood collection. The proviral load of the vagina and peripheral blood was measured by real-time quantitative polymerase chain reaction (PCR). The values obtained were expressed as the number of copies of HTLV-1/10⁶ PBMC and vaginal fluid.

Results:

Fifty-seven women (44 asymptomatic and 13 diagnosed with HTLV-associated myelopathy/tropical spastic paraparesis - HAM / TSP) with a mean age of 36 (SD±7.2) years were studied. Overall, proviral load was higher in PBMCs [median of 24,372 copies/10⁶ cells (IQR: 7,429 - 67,973)] than in vaginal fluid [431.3 copies/10⁶ cells (IQR: 0 - 2,581)], $p < 0.0001$. A positive correlation was observed between proviral load in PBMC and in vaginal fluid ($R = 0.29$, $p = 0.02$). Undetectable proviral load in vaginal fluid was found in 21 women (36.8%), being more frequent in those asymptomatic (20 out of 21).

Conclusion:

HTLV-1 proviral load is detectable in vaginal fluid and correlates directly with PBMC proviral load. This finding supports that sexual transmission of HTLV-1 occurs from female to male.

Disclosure of Interest Statement:

We declare that we have no conflict of interest.