

## SHORT REPORT: SEROPREVALENCE OF RETROVIRAL INFECTIONS AMONG PREGNANT WOMEN IN MARTINIQUE (FRENCH WEST INDIES)

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**Abstract.** A seroepidemiologic study of human T cell lymphotropic virus type-1 (HTLV-1) and human immunodeficiency virus (HIV) infections was carried out in Martinique among 467 pregnant women receiving prenatal care at the Martinique Department for the Protection of Motherhood and Childhood. A seroprevalence rate of 1.93% was found for HTLV-1 infection. No HIV serum marker was observed. Given the epidemiology of these viral diseases, it is suggested that serologic status should be determined for all pregnant women on this island. A further, large-scale, prospective survey of HIV seroprevalence in Martinique should be performed to confirm the results of the present study.

The aim of the present survey was to assess the prevalence of viral markers for human immunodeficiency virus (HIV) and human T cell lymphotropic virus type-1 (HTLV-1) infections among pregnant women in Martinique. This country is an 1,100 km<sup>2</sup> French overseas subdivision located in the Lesser West Indies. It has a population of approximately 390,000 inhabitants (population density ~ 355 inhabitants/km<sup>2</sup>). Approximately 25.6% of the inhabitants lives in an urban area (Fort de France) and its suburbs, and 14.4% are semi-urban dwellers. The remainder of the population (60%) is scattered in 31 rural communes. Thirty-two percent of the population is less than 20 years of age. Women between 15 and 49 years of age constitute 27% of the population, and 5,901 births were recorded in 1994.

This study was performed between August 1995 and January 1996 among pregnant women receiving prenatal care at the Martinique Department for the Protection of Motherhood and Childhood. Before serum samples were obtained, all women were given information about the study and they then provided informed consent. In cases of serologic positivity, their physicians were notified. After informed consent was obtained and medical inquiries were made, the first 467 subjects were included. This study was reviewed and approved by Ethical Group of the Martinique Department for the Protection of Motherhood and Childhood. Collected sera were stored at -80°C pending batch analysis.

The sera were tested using an ELISA for antibodies to anti-HTLV-1 (HTLV-1 new; Sanofi Diagnostics Pasteur, Marnes la Coquette, France) and two ELISAs for antibodies to HIV-1 and HIV-2 (GenELAVIA mixture; Sanofi Diagnostics Pasteur, and Gen+; Abbott Laboratories, Abbott Park, IL). Positive or borderline results were confirmed by appropriate assays, such as Western blot analysis (HTLV Blot 2.4; Genelabs Diagnostics Biotechnology, Geneva, Switzerland). Five sera (1.07%) showed false ELISA positivity for HTLV and none showed false positivity for HIV.

The mean  $\pm$  SD age of the women studied was 26.2  $\pm$  5.8 years (range = 15–49). A total of 56.5% lived in an urban area, 9.2% in a semi-urban area and 34.3% in rural areas. The mean  $\pm$  SD number of pregnancies per woman was 2.5  $\pm$  1.4 (range = 1–10), whereas the mean  $\pm$  SD number of parities was 0.9  $\pm$  1.2 (range = 0–9). One hundred sixty-nine women (36.2%) had a history of obstetrical problems: voluntary abortion in 112 (24%), miscarriage in

38 (8.1%), both problems in 19 (4.1%), and extra-uterine (ectopic) pregnancy in 4 (0.85%).

Nine pregnant women (1.93%; 95% confidence interval = 0.68–3.18) had a positive test result for HTLV-1 infection. This result is consistent with data from the literature: the Caribbean area has previously been found to be a focus for this retroviral infection.<sup>1,2</sup>

No significant correlation (not significant by the chi-square test) was found between HTLV-1 seropositivity or age, number of pregnancies or parities, history of abortion or miscarriage, and other serological markers (positivity for hepatitis B surface antigen and antibodies to hepatitis B core antigen or hepatitis C virus), as previously described.<sup>3,4</sup> A significant association ( $P = 0.003$ ) was only observed only if the patient was an urban dweller.

The Caribbean area and the French West Indies have been recognized as a zone of high HIV prevalence.<sup>5</sup> From 1987 to January 1997, 402 AIDS cases, including 107 women, were reported in Martinique (Direction Départementale des Affaires Sanitaires et Sociales, unpublished data). From 1990 to 1994, 3,353 anonymous HIV screening tests were performed at the Martinique free HIV detection center in Fort de France. The confirmed seropositivity rate was 1.13%.

Retrospective analysis of women with AIDS in Martinique showed that a heterosexual origin of HIV infection is predominant. Such data were reported for 81.8% of women with AIDS (Office National de la Santé Publique, unpublished data).

Unlike HTLV-1 infection, which may have arrived in the Caribbean along with the African slaves,<sup>6</sup> HIV infection was recently introduced, and the epidemic is still rampant. Given these facts, the absence of any HIV-positive result in the present study was surprising. The first explanation could be a decrease in the HIV outbreak in these female age groups, the reason for which remains unclear. Conversely, it could be hypothesized that HIV-positive women are reluctant to become pregnant.

Since the epidemiology of this infection in pregnant women reflects the epidemiology within the general population, a larger-scale prospective survey of HIV infection in Martinique should be conducted to verify the results of the present study and to analyze in more detail the epidemiologic features of this retroviral infection.

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