

**Study of Haitian Boat People Shows Prevalence of HBV and HIV Markers**

Of the nearly 100,000 Haitians who have come to the United States since 1978, about 15,000 landed as boat people on the coast of south Florida in 1980 and 1981. Half of these were men aged 18 to 29; about 20 percent were men 30 to 40; and about a quarter were women, almost all 18 to 35 years old (1).

We report the results of a seroprevalence study to measure the frequency of hepatitis B virus (HBV) and human immunodeficiency virus (HIV) infection in a population of 171 Haitian men. The subjects were detained by the U.S. Immigration and Naturalization Service during the second quarter of 1981 prior to exclusion hearings. Their mean age was 27.7 years, ranging from 17 to 52. Forty-five (26 percent) reported having been employed prior to leaving Haiti; of these, 29 had been working as farmers, and 16 in nonagricultural work.

A complete health assessment was performed during their detention. Limited infectious disease surveillance was carried out, and some findings have been reported (2). A sample of blood was collected from each person by venipuncture and the serum stored at -70 degrees C. until tested in 1986. Sera were identified only by date of birth.

HBV markers were tested for using radioimmunoassays (A) for the hepatitis B surface antigen (HBsAg), the hepatitis B e antigen (HBeAg), antibodies to the hepatitis B surface antigen (anti-HBs), antibodies to the hepatitis B core antigen (anti-HBc), and antibodies to the hepatitis B e antigen (anti-HBe). All positive results for anti-HBs and anti-HBc were confirmed using enzyme immunoassay kits (B). A positive RIA test was one having a S to N ratio greater than 10.

Antibodies to HIV were assayed using two commercial ELISA procedures (C). Samples yielding borderline or repeatedly positive reactions, as determined by instructions of the manufacturers, were further tested by a Western blot technique enhanced by the use of an avidin-biotin system (3).

Table 1. Surveys of Haitian populations for Hepatitis B markers, with seroprevalence rates in percentages

Study	Population	HBsAg	Any HBV marker
PAHO (6).....	National estimate	2.7	61
Olle-Goig (7).....	19 adults, undiagnosed liver disease, 68 percent female 39 adult controls, 69 percent female	31.0	95
		5.1	72
Malison, et al. (8).....	51 immigrant women 72 children, aged 10	4.0	55
		...	10
State of Florida (9).....	122 immigrants, 88 percent male	14	84
CDC*.....	77 pregnant immigrants	7	62
Lange, et al. ....	171 male boat persons	12	67

\*Unpublished, cited in reference 8.

Table 2. Surveys of Haitian populations for human immunodeficiency virus markers, with seropositive rates in percentages

Study	Population	Number	Rate
CDC (10).....	Immigrants, New York City Immigrants, Miami	97	4
		129	8
Pitchenik, et al. (11).....	Native, outpatients Native, hospital workers	68	2.9
		28	3.7
Gazzolo, et al. (12).....	Immigrants, French Guiana	211	2.8
Lange, et al. ....	Haitian boat people	171	7

A Western blot was read as positive if bands were detected in either the p24 or gp41 regions, according to established Centers for Disease Control criteria.

**Results**

Of the 171 subjects, 21 were positive for the hepatitis B surface antigen, a prevalence rate of 12 percent; 95 (56 percent) had antibodies to the surface antigen; and 115 (67 percent) had at least one detectable HBV marker. Of the 21 presumed chronic carriers, only 6 (29 percent) had detectable HBeAg levels. The age distribution of those seropositive for HBsAg or anti-HBs did not differ from that of those testing negative.

Twelve subjects (7 percent) were

seropositive for HIV antibodies by both ELISA screening and Western blot confirmatory testing. The mean age of those testing seropositive was 30.4, ranging from 19 to 52 years. The mean age of those testing seronegative for HIV antibodies was 23.6. Eight of the 12 seropositive subjects (67 percent) had a Western blot pattern positive for both the p24 and gp41 bands as well as other viral proteins. Tests of three subjects reacted to p24 only, and one reacted to gp41 only, although all four of these had p15 and p55 bands present.

Table 1 compiles the findings of surveys for the prevalence of HBV serologic markers that have been conducted in Haiti as well as in Haitian populations in the United States. Table 2 depicts similar data for HIV.

There was some concordance between HIV infection and HBV infection; 10 (83 percent) of those with HIV antibodies were seropositive for at least one HBV serologic marker. However, in this study, the association between HBV and HIV was not statistically significant; 10 of the 12 HIV positives were HBV-marker positive, while 105 of 159 HIV negatives were also HBV-marker positive ( $P = 0.1829$ , Fisher's exact test).

### Discussion

This study corroborated and extended earlier studies that demonstrated that HBV infection was prevalent in Haitians and Haitian emigrants. Since hepatitis B surface antigens was only assayed once, those testing positive can only be presumed to be chronic carriers. The observation that only 29 percent of the HBsAg carriers had serologic evidence of HBeAg is consistent with HBV infection early in life, as seen in developing regions (4). This implies that those who were HBsAg-positive were indeed chronic carriers. The only other survey of asymptomatic Haitians which demonstrated a carrier rate of this magnitude was that conducted by the State of Florida (9) during the same period. That study suggested that the HBsAg carrier rate may be higher in refugee populations from Haiti than in the Haitian population as a whole.

While AIDS is distributed throughout the Caribbean, Haiti has reported the greatest number of cases. When reported cases for the region are standardized by population, Haiti does not emerge as a uniquely high-risk region (5). However, despite the fact that detailed and comprehensive HIV antibody seroprevalence data for the area is lacking, our study indicates that Haitian emigrants exhibited substantial exposure to HIV in 1981. We conclude that both HBV and HIV were important infections in Haitian boat people, and that the HBsAg carrier rate was higher in this segment of the Haitian population than in Haitians in general.

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### Supplies

- A. Abbott Laboratories, North Chicago, IL.
- B. Abbott Laboratories, North Chicago, IL, Auszyme and Corzyme.
- C. Abbott Laboratories, North Chicago, IL, and DuPont Co., Wilmington, DE.

## Labor, HHS Urge Health Care Employers to Protect Workers Against Hepatitis B and AIDS

The Secretaries of Labor and Health and Human Services have launched a nation wide campaign to reduce the risk of on-the-job exposure to viruses that cause hepatitis B and AIDS among health care workers. A letter signed by Labor Secretary William E. Brock and HHS Secretary Otis R. Bowen and an information package were published in the October 30, 1987, Federal Register and were mailed to an estimated 500,000 health care employers beginning last November.

The joint letter urges hospitals, blood banks, hospices, laboratories, and other health care employers to adhere to Federal guidelines designed to protect employees from accidental exposure to the viruses. The guidelines were developed by HHS's Centers for Disease Control.

The two departments developed a joint advisory notice for the campaign which explains to employers how to implement the protective guidelines. The advisory recommends "imposing barriers in the form of engineering controls, work practices, and protective equipment" to safeguard health care workers who may be exposed to blood, body fluids, and tissues.

The notice officially spells out for the first time that employers can be held accountable for failure to implement the guidelines, which have been considered voluntary. "It is the legal responsibility of employers to provide appropriate safeguards for health care workers who may be exposed to these dangerous viruses," the notice says.

The mail campaign is the initial step in a joint effort by the two departments to increase awareness among health care employers and employees of the risk associated with exposure to the hepatitis B virus (HBV) and the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome or AIDS.

The departments worked closely with the American Nursing Association, American Hospital Association, American Medical and Dental Associations, and other private and governmental agencies to assure the most comprehensive mailing possible.

According to the CDC, as many as 18,000 health care workers per year may be infected by the HBV virus. Nearly 10 percent of those who become infected become long-term carriers of the virus and may have to give up their profession. Several hundred health care workers will become acutely ill or jaundiced from HBV, and as many as 300 annually may die as a result of HBV infections or complications.

Infection with HIV virus in the workplace represents a smaller but very real hazard to health care workers, according to the notice. CDC expects that with 1.5 million persons now believed to be infected by HIV, the number of AIDS cases may grow to as many as 270,000 by 1991 from the 40,000 which had been reported by August 1987.