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# Hepatitis B Infection in a Chinese Pediatric Population in New York City

*Loretta Au, MD, A.L. Mendelsohn, and G.M. Wang, MD, New York University Medical Center and Chinatown Health Clinic, New York, NY*

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## Abstract

### Introduction

Hepatitis B (HBV) infection is endemic in the Southeast Asian populations. In May 1993, the Chinatown Health Clinic (CHC) in NYC, a federally funded clinic serving low-income Chinese families, adopted a policy to vaccinate all children against HBV infection. Because of limited resources, only children aged 7 to 19 were screened for HBV exposure prior to vaccination. In this study, the results of this screening were used to determine the rate of HBV exposure in the pediatric population at the CHC, and to determine the value of HBV screening prior to vaccination.

### Methods

All children aged 7 to 19 years presenting for routine health care at the CHC between May 1, 1993 and October 31, 1993 were evaluated for inclusion in the study. Of these 261 children, 240 had no prior history of HBV infection, no clinical symptoms of hepatitis and no documentation of HBV infection. Information was collected for all 240 children about age, sex, place of birth, length of time in the U.S. and presence of a family carrier for HBV. Blood samples were taken from each child and screened for Hepatitis B Surface Antigen (HBSAg) and Hepatitis B Surface Antibody (HBSAb).

### Results

Of the 240 children, 95 (39.6%) were US born and 145 (60.4%) were immigrants, mainly from China (70.3%) and Hong Kong (21.3%). Overall, 87 (36.3%) had serologic evidence of HBV exposure, of which 18 (7.5%) were HBSAg positive and 69 (28.8%) were HBSAb positive.

Immigrant children were significantly more likely than US born children to have any evidence of exposure to HBV (53.1% or 77/145 vs. 10.5% or 10/95, $x2 = 45.0$, $p<0.0001$). In addition, immigrant children were significantly more likely to be HBV carriers (11.7%, 17/145) compared to US born children (1.1%, 1/95), $x2 = 9.4$, $p<0.005$. Among immigrant children, HBV exposure was not limited to those who had arrived recently; for example, 11.7% (17/145) of immigrants who had lived in the US for more than one year were HBSAg positive.

Only 22 (9.2%) of the children had a family member identified as HBV carrier; for the rest, carrier status in the family was not known. As a result, family carrier status by history was a very insensitive marker, identifying only 4.8% (4/87) of HBV exposed children.

## Conclusion

This study confirms that HBV is endemic in the NYC Chinese community. The high rate of prior HBV exposure among all immigrant children suggests that screening prior to vaccination may be cost effective. For US born children, it is unclear whether the rate of HBV exposure is high enough to warrant screening. HBV infection will continue to spread unless more aggressive efforts are made to ensure vaccination for all pediatric patients in this community.