

Hepatitis B: A Silent Epidemic for Asian-Americans

The Issue

Hepatitis B is a viral disease that causes 80% of liver cancers (hepatocellular carcinoma). Hepatitis B poses a special peril for the Asian-American community because liver cancer is the most common tumor among individuals born in many Asian countries, particularly Southeast Asian countries.¹ Recent immigrants from Asian countries to the United States, as well as in subsequent generations within the same household, are at special risk.²

Implications

The prevalence of hepatitis-B related deaths, the silent course of the disease, and its disproportionate impact on the Asian-American community has clear implications for public policy. It is estimated that 800,000 to 1.4 million Americans have chronic Hepatitis B infections.³ It is estimated that, over the next 10 years, about 150,000 people in the United States will die from cancer and liver disease caused by hepatitis.⁴ However, the deadly consequences of long-term hepatitis B infection (cancer and lethal liver destruction) do not become symptomatic until years of silent destruction have taken their toll.

Background

Hepatitis B is a serious viral infectious disease. Most persons infected with the disease are unaware that they are infected; however, some develop an acute infection that can take a year to spontaneously resolve. The major risk of Hepatitis B, however, occurs during the chronic, asymptomatic phase of the disease. During the chronic phase, the virus causes severe, irreversible damage to the liver, which after decades of injury creates a high risk of death from cirrhosis or hepatocellular carcinoma.⁵

The hepatitis B virus is transmitted through contact with infected blood or other bodily fluids.⁶ Hepatitis B is transmitted through the same types of routes and contacts as the HIV virus; however, Hepatitis B is 50 to 100 times more infectious than HIV, and can survive in an infectious state outside the body for at least 7 days.⁷

Research Findings

Health Outcomes

Hepatitis B is a significant contributor to disease burden and health care costs in the United States. Over one billion dollars is spent annually on hospitalizations that are related to hepatitis B.⁸ Within the United States, Asian-American populations show a disparity in chronic hepatitis B and liver cancer incidence, when compared to other ethnic groups. For example, in one study, up to 15 percent of Southeast Asian immigrants to the United States were found to be chronic hepatitis B carriers, compared to a rate of less than 1 percent in the general U.S. population.⁹ Similar patterns of disparity emerge from data regarding liver cancer incidence: in California, for example, liver cancer has an incidence rate of 5.1% among Asian-American women (and 8.0 percent of Southeast Asian women), compared with a much lower incidence rate of 1.1 percent among non-Latina white women.¹⁰ Also, liver cancer is a leading cause of cancer death among Asian-American men.¹¹ The damage caused by chronic hepatitis B infection is insidious; in one study of immigrants from Vietnam in San Jose, California, virtually all of the persons in the study group who were chronically infected with hepatitis B had active liver

disease without symptoms. Further, 9% had elevated levels of blood markers related to liver cancer.¹²

Effects of Migration

The most common route of infection for people in developing countries is transmission from mother to child during birth.¹³ In developed countries, the most common means of transmission is during sexual activity and injection drug use during young adulthood.¹⁴

Asian-American populations, however, show a different profile in terms of transmission. In Asia, maternal-neonate transmission is the most common form of infection.¹⁵ In the United States, horizontal transmission through close contact with family members is also a significant route of infection in the Asian-American community, as shown by studies of antibody markers of infection that exhibit a steady increase in infection from birth through age 20.¹⁶ Such transmission between family members occurs through prolonged, close contact, due to direct contact with contaminated blood, even in tiny amounts too small to see, especially when sharing personal items such as toothbrushes or razors.¹⁷

Between 1972 and 2008, 63 percent of the 27.9 million immigrants entering the United States were born in countries of intermediate or high chronic hepatitis B prevalence.¹⁸ An estimated average of 53,800 chronic hepatitis B cases were imported into the United States annually during those years, with most imported cases arriving from the Philippines, China, and Vietnam (13.4%, 12.5%, and 11%, respectively). The average number of cases imported per year increased over the 30 years after 1972.¹⁹ Imported chronic hepatitis B accounts for approximately 95% of new US cases.²⁰

Although hepatitis B vaccines became available in the United States in 1982, resulting in a marked decrease in hepatitis B prevalence among children, the prevalence of hepatitis B among adults has changed little since 1998, due in large part to the impact of immigration from high-prevalence nations.

Policy Implications and Recommendations

Worldwide, hepatitis B infection is one of the top ten causes of infectious-disease related mortality, resulting in over half a million deaths annually.²¹ Persons infected during childhood are especially at risk: approximately 25 percent will die from liver cancer or cirrhosis.^{22, 23} In the United States, at least 73,000 new cases are reported annually.^{24, 25} It is estimated that approximately 2 million Americans are currently living with chronic hepatitis B.²⁶

Hepatitis B can be prevented through vaccination and, if a person is already infected with chronic disease, can be successfully managed with antiviral medication in order to avoid long-term liver damage.²⁷ Screening and early treatment before irreversible liver destruction occurs are necessary to alter the disease and mortality burden of hepatitis B. The disproportionate impact of hepatitis B on the Asian-American population argues for directing public health resources towards this community for outreach, screening, treatment, and prevention, in a culturally sensitive manner, in order to reduce the public health burden of this disease by decreasing the morbidity and mortality of existing, hidden infections, and preventing new infections.

Screening of new immigrants

Hepatitis B is not included in immigration testing.²⁸ Only children are required to receive hepatitis B vaccinations when immigrating to the United States.²⁹ Vaccination does not reverse the presence of pre-existing chronic hepatitis B infection. However, lack of awareness of this fact can lead vulnerable populations to forego needed screening; for example, parents of children

who may have acquired hepatitis B infections before immigrating may fail to seek needed screening after their children are vaccinated.

Given the long-term disease burden of end-stage liver disease caused by hepatitis B, both for infected immigrants themselves and for their American-born family members who could become infected via horizontal transmission, it is recommended that all immigrants from high-incidence countries be screened for chronic hepatitis B infection at the time of immigration, with a coordinated response through the county health department at their first American residence to ensure adequate follow-up for those found to be chronically infected. Further, all immigrants from high-risk areas should also receive vaccinations for hepatitis B subsequent to screening.

Screening of existing populations

Screening at the time of immigration, however, would not in itself be sufficient to address this problem, because existing immigrant communities represent a reservoir of potential infection here within the United States, as well as a population of persons who are silently yet inexorably progressing towards liver cancer or liver failure. For this existing population, a targeted program of screening and treatment is vital. While there are programs targeted at vulnerable populations, such as the Stanford Asian Liver Center, and San Francisco Hep B Free program (see links below), these programs tend to be localized to areas of the country with large concentrations of populations of Asian heritage. In order to successfully address this epidemic, however, these sorts of culturally-specific programs need to be replicated more widely across the nation.

Impediments to screening: new immigrants

One potential impediment to a program of screening and surveillance at the point of immigration entry, however, is that the success of such a practice would depend on the willingness of migrants with chronic hepatitis B infection to seek and sustain follow-up treatment after their arrival in the United States. Cultural and institutional attitudes towards hepatitis B infection in their home countries, however, might discourage such cooperation once settled in the United States. For example, in China persons with known chronic hepatitis B infections are subject to stigma and discrimination, resulting in expulsion from schools, dismissal from employment, and being shunned in the community.³⁰ Such a history of social stigma and discrimination in the home country may discourage migrants from seeking appropriate follow-up treatment in the United States, even if identified with a chronic hepatitis B infection at the time of immigration screening.

Impediments to screening: existing populations

A significant threshold issue that outreach and screening programs for existing migrant populations need to address is the lack of knowledge about hepatitis B, and misinformation about the disease, prevalent in many Asian migrant communities. Studies have shown that Asian immigrants of Chinese, Vietnamese, Cambodian, and Korean heritage have low levels of hepatitis B related knowledge.³¹ A study of Cambodian-American populations, for example, showed that only half of those surveyed had heard of hepatitis B infection; only one quarter believed that asymptomatic individuals could transmit the disease to others.³²

Even among Asian populations who have heard of hepatitis B, low levels of knowledge include misperceptions that can lead to a false sense of security, and discourage persons from seeking care; such misinformation includes the belief that persons with chronic hepatitis B infections will show overt symptoms (a belief that discourages those who feel healthy from seeking screening and preventive care), as well as a false, but widespread belief that a cure for hepatitis B exists.³³ Such beliefs encourage treatment delay until liver damage progresses to the level of end-stage damage. The level of mis-information varies among different Asian groups:

persons born in China or Southeast Asia, for example, have poorer hepatitis B knowledge compared to those born in Hong Kong or Taiwan.³⁴ The latter finding is consistent with studies that have shown that even highly trained health care and public health professionals in China often lack important information regarding hepatitis B infection: in one study, for example, 34% of the participating professionals did not know that chronic hepatitis B infection is often asymptomatic.³⁵

Given the disproportionate impact of chronic hepatitis B infection on Asian American communities, the endemic lack of knowledge regarding the disease in these communities, and the disease burden and mortal risk posed the steadily encroaching liver damage of chronic hepatitis B, culturally targeted outreach, education, screening, treatment and vaccination programs are needed for Asian communities across the United States in order to arrest the progress of this smoldering epidemic.

Links to Other Resources of Interest

Hepatitis B Foundation: <http://www.hepb.org>

Asian Liver Center, Stanford University School of Medicine: <http://liver.stanford.edu>

Hep B Free San Francisco: <http://www.sfhpbfree.org>

Hep B Free Santa Clara County: <http://santaclaracountyhepbfree.wordpress.com>

Hep B Free San Mateo County: <http://smhepbfree.org>

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⁵ World Health Organization (2008) Hepatitis B Fact Sheet, <http://www.who.int/mediacentre/factsheets/fs204/en/>

⁶ World Health Organization (2008) Hepatitis B Fact Sheet, <http://www.who.int/mediacentre/factsheets/fs204/en/>

⁷ World Health Organization (2008) Hepatitis B Fact Sheet, <http://www.who.int/mediacentre/factsheets/fs204/en/>

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¹⁰ Taylor, V., Jackson, J., Chan, N., Kuniyuki, A., Yasui, Y., 2002. *J. Community Health* 2002 June; 27(3): 151-163.

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- ¹⁴ World Health Organization (2008) Hepatitis B Fact Sheet, <http://www.who.int/mediacentre/factsheets/fs204/en/>
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- ¹⁷ *When Someone Close to You Has Chronic Hepatitis B* (2010), U.S. Centers for Disease Control Publication 21-1304, <http://www.cdc.gov/hepatitis/HBV/PDFs/HepBWhenSomeoneClose.pdf>
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