The Hepatitis B Vaccine: What Went Wrong?

By F. Edward Yazbak, MD, FAAP

On Dec. 23, 2005, the Centers for Disease Control and Prevention (CDC) published a Morbidity and Mortality Weekly Report (1) in which the authors essentially stated that:

- Rates of new hepatitis B virus (HBV) infection and acute disease are highest among adults
- Chronic infection is more likely to occur in persons infected as infants or young children
- Chronically infected persons are at increased lifetime risk for cirrhosis and hepatocellular carcinoma (HCC) and also serve as the main reservoir for continued HBV transmission.

In the United States, we embarked on the “universal” hepatitis B vaccination program in 1991. Three doses of vaccine were recommended, the first shortly after birth, the second a month later and the third at six months of age. Although everyone agrees that it is imperative to identify infected mothers and to administer hepatitis B immune globulin, followed by the first dose of vaccine, to their infants immediately after birth, many still believe that vaccinating all children is a mistake.

It was not generally known that:

1. The incidence of hepatitis B infection in the United States had always been very low: 0.1 to 0.5 percent compared to 5 to 20 percent in the Far East and Africa.
2. In 1991, when the U.S. population was around 248 million, there were 18,003 cases of hepatitis B viral illness — a national incidence of 0.007 percent.
3. The number of U.S. cases of hepatitis B peaked in 1985 and started to decline because of improved precautions before the 1991 infant vaccination program.
4. In 1986, five years before the vaccination program was launched, only 279 cases of HBV infections were reported nationwide in children under 14.
5. In 1996, five years after the initiation of the program, the CDC declared, "Hepatitis B continues to decline in most states, primarily because of a decrease in the number of cases among injecting drug users and, to a lesser extent, among both homosexuals and heterosexuals of both sexes." (2)

As of June 2006, there have been 47,198 reports to the Vaccine Adverse Event Reporting System (VAERS) describing complications following the administration of the hepatitis B vaccine alone or with other vaccines. Of these, 23,406 reports were about children 14 years of age and younger. There were 909 death reports of which 795 were under the age of 14.
To date, the CDC still claims, at least officially, that hepatitis B vaccination of infants and children in the U.S. is essential and that it will ultimately decrease the incidence of hepatocellular cancer. In fact, the hepatitis B vaccine often has been fondly called the “first cancer vaccine.”

There are two available pediatric/adolescent hepatitis B vaccine preparations. A dose of Engerix B (GSK) costs the private sector $21.37 and the CDC, $9.10, while a dose of Recombivax (Merck) costs the private sector $23.20 and the CDC, $9. Three doses are recommended for each child and there are now more than four million births a year in the U.S.

Most critics of the U.S. vaccination program wholeheartedly supported vaccination initiatives in Africa and the Far East, where hepatitis B infections are common and more serious.

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Hepatocellular carcinoma

A 1999 study by El-Serag and Mason, published in the *New England Journal of Medicine* (*NEJM*), revealed that the incidence of histologically confirmed hepatocellular carcinoma (HCC) increased between 1976-1980 and 1991-1995 from 1.4 per 100,000 population to 2.4 per 100,000. The incidence among black men was double that of white males. “There was a 41 percent increase in the mortality rate from primary liver cancer and a 46 percent increase in the proportion of hospitalizations attributable to this disease during the periods studied. The incidence increased significantly among younger persons (40 to 60 years old) during the period from 1991 to 1995 as compared with earlier periods.” (3)

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Since 1984, a serious hepatitis B vaccination program has been implemented in Taiwan. A group of researchers from the pediatrics department at the National Taiwan University Hospital in Taipei undertook a study examining this effort.
In June 1997, Chang et al published their findings in the *NEJM*, reporting that, indeed, the incidence of liver cancer in children had decreased since the vaccine has been in use. “The average annual incidence of hepatocellular carcinoma in children 6 to 14 years of age declined from 0.70 per 100,000 children between 1981 and 1986 to 0.57 between 1986 and 1990, and to 0.36 between 1990 and 1994 (P<0.01). The corresponding rates of mortality from hepatocellular carcinoma also decreased. The incidence of hepatocellular carcinoma in children 6 to 9 years of age declined from 0.52 for those born between 1974 and 1984 to 0.13 for those born between 1984 and 1986 (P<0.001).” (4)

In a subsequent publication, just three years later, in the *Journal of the American Medical Association (JAMA)*, Chang, Shau, Chen and others from the Taiwan Childhood Hepatoma Study Group reported some disturbing findings.
The purpose of the follow-up investigation was to evaluate the association between the hepatitis B vaccination program and the incidence of childhood HCC by sex. The study period extended from 1981 to 1996. All children aged 6 to 14 years diagnosed with HCC were included — 201 boys and 70 girls in all.

According to the authors, “The boy-girl incidence ratio decreased steadily from 4.5 in 1981-1984 (before the program's introduction) to 1.9 in 1990-1996 (six to 12 years after the vaccination program was launched). The incidence of HCC in boys born after 1984 was significantly reduced in comparison with those born before 1978 (relative risk [RR], 0.72; \( P = .002 \)). No significant decrease in HCC incidence was observed in girls born in the same periods (RR, 0.77; \( P = .20 \)). The incidence of HCC in boys remained stable with increasing age, while an increase of HCC incidence with age in girls was observed. These age and sex effects remained the same regardless of birth before or after the vaccination program.”

The authors concluded, “Our results suggest that boys may benefit more from HBV vaccination than girls in the prevention of HCC.” (5)

As stated, the conclusion suggests that the girls were protected by the vaccine but the boys were even better protected when it came to HCC. Yet according to the authors, “No significant decrease in HCC incidence was observed in girls born in the same periods.” Clearly, therefore, the girls did not benefit whatsoever from the vaccine.

There seems to be further significant concern with the statement, “The incidence of HCC in boys remained stable with increasing age, while an increase of HCC incidence with age in girls was observed.” This carefully worded message suggests that vaccinated girls actually had an increased incidence of HCC as they got older. That is certainly not a desirable outcome … anywhere.

All vaccines have risks. To expose millions to a vaccine that does not work is inappropriate. To expose them to a vaccine that actually increases cancer seems outrageous.

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**Fast forward to June 8, 2006**

The *Taipei Times* pre-empts other news sources and publishes a disturbing report entitled “Study shows hepatitis C may be the cancer culprit.”

The report stated “A new study conducted in Taiwan suggests that the hepatitis C virus is the true culprit behind the nation's rising rates of hepatocellular carcinoma (a common type of liver cancer), debunking theories that the hepatitis B virus was mostly to blame.”

The study in question, “Secular trends and geographic variations of hepatitis B and hepatitis C virus-associated hepatocellular carcinoma in Taiwan,” is due to be published
soon in the *International Journal of Cancer*. It was conducted by three groups at three locations: the Chang Gung Memorial Hospital in Kaohsiung, the National Taiwan University Hospital in Taipei and the Changhua Christian Hospital in Changhua City.

A total of 18,423 HCC cases over 20 years (1981-2001) were reviewed. The researchers reported that while the overall mortality rate in patients with liver cancer caused by hepatitis B had dropped, *the number of deaths related to the cancer caused by hepatitis C had increased by 66 percent in Taiwanese males and by 100 percent among Taiwanese females.* (6)

The above has to be the most alarming health news report of 2006. Here we are worrying about a non-existing bird flu pandemic and a few hundred cases of measles or mumps here and there and not realizing that the Far East is looking at a cataclysmic health development.

The switch from hepatitis B to hepatitis C is not a big surprise and it has happened again and again. The surprise is that no one in authority seems to have learned from previous experience. Year after year, we see influenza A and B strains switch in the middle of the season. In a recent article on Red Flags, very similar developments following PREVNAR vaccination were reported. The number of cases of shingles has mushroomed since the introduction of Varivax, the chickenpox vaccine. We replaced a simple self-limited disease with a nasty, painful and chronic one. When will we learn that it is not wise to try to fool Mother Nature? We think we have a solution to a problem only to find out that our solution is the problem.

From the World Health Organization web site: “Hepatitis C has been compared to a “viral time bomb”… about 180 million people, some three percent of the world's population, are infected with hepatitis C virus, 130 million of whom are chronic HCV carriers at risk of developing liver cirrhosis and/or liver cancer. It is estimated that three to four million persons are newly infected each year, 70 percent of whom will develop chronic hepatitis. *HCV is responsible for 50-76 percent of all liver cancer cases,* and two thirds of all liver transplants in the developed world.

Current estimates are that 3.9 million Americans are chronically infected with HCV, with *prevalence rates as high as 8-10 percent in African Americans.* Injectable drug use remains the main route of transmission, accounting for nearly 90 percent of new HCV infections. Sexual transmission is thought to be relatively infrequent.

Mother-to-child HCV transmission has been widely documented. The risk of perinatal infection ranges *from 3-15 percent in different populations.* Transmission is believed to occur in utero, as a consequence of a high viral load in the mother.” (7)

To date, there is no hepatitis C vaccine. It is a sure bet that when one is developed, it will create more chaos, cause more reactions and cost more than $9 a dose.
Whether the latest “cancer vaccine” the human papilloma virus vaccine, will result in more problems than it will solve remains to be seen. Stay tuned.

References


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