

## BIOMEDICINE

# Hepatitis B shots reduce liver cancer

In July 1984, Taiwan instituted a free, nationwide vaccination campaign against the hepatitis B virus. The program started with infants, but by the end of the 1980s, preschool and school-age children were also getting the shots. Predictably, hepatitis B cases in Taiwanese children declined by more than 90 percent between 1984 and 1994.

Now, a review of Taiwan's national cancer registry shows that the incidence of liver cancer in Taiwanese children has dropped dramatically as well. Researchers had suspected the same virus often underlies both diseases.

To gauge the cancer decline, Taiwanese researchers documented all 294 cases of hepatocellular carcinoma, the most common liver cancer, between 1981 and 1994 in children age 6 to 14. The number of cases fell from 26 in 1982 to 8 in 1993, Mei-Hwei Chang's team at the National Taiwan University in Taipei reports in the June 26 *NEW ENGLAND JOURNAL OF MEDICINE*. The researchers calculate that the overall rate dropped from seven cases per million children to fewer than four. As a comparison, they tracked brain tumors in children age 6 to 14 during the same period. That number rose slightly.

"It's pretty well accepted that there is a very strong link" between liver cancer and hepatitis B, says T. Jake Liang, chief of liver disease research at the National Institute of Diabetes and Digestive and Kidney Diseases in Bethesda, Md. According to earlier studies, nearly all Taiwanese children who have liver cancer also test positive for a hepatitis B surface antigen, as do 70 to 80 percent of adults with liver cancer.

When liver cancer follows a hepatitis B infection, the cancer may not appear for years, Liang says. "There's a time delay effect," he says. The Taiwanese study shows the effectiveness of universal vaccination for hepatitis B to combat both diseases, he adds.

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