Four Hepatitis B Tests Give Key Diagnostic Information

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — Tests for hepatitis B surface antigen, surface antibody, core antibody, and type "e" antigen each play an important role in diagnosing infection and level of infectivity, Dr. Tina Q. Tan said at the annual meeting of the American Academy of Pediatrics.

These serologic markers of the hepatitis B virus help distinguish infection with this virus from other hepatitis virus infections, all of which cause nonspecific signs, symptoms, and laboratory findings, said Dr. Tan of Northwestern University, Chicago.

Hepatitis B prodrome can cause malaise, fever, headache, myalgia, vomiting or nausea, and right upper-quadrant pain. Jaundice or hepatomegaly may be seen, but more than half of infections are asymptomatic.

A positive hepatitis B surface antigen (HBsAg) test indicates that the patient is acutely or chronically infected and is immune to the hepatitis B virus or to infection with the virus, either because of vaccination or immunity from recovering from an acute infection. False-positive cases are very rare.

The meaning of a positive hepatitis B core antibody (HBcAb) test depends on the type of antibody. A patient who is IgM positive has recently been infected with the hepatitis B virus. Positivity to IgG antibody could indicate a past infection or a chronic infection with hepatitis B virus.

Dr. Tan suggested a three-step process for initial interpretation of the panel of tests:

- If the HBsAg is negative and the HBsAb is positive, then the patient is immune to hepatitis B.
- If the HBsAg is positive and the HBsAb is negative, then the patient has either acute or chronic hepatitis B infection.
- If the HBsAg and HBsAb are negative and the HBcAb is positive, this could be a false-positive result, or the patient is chronically infected or recovering from acute infection, or may be immune to hepatitis B but the HBsAb level is too low to be detected.

A fourth test, for hepatitis B "e" antigen (HBeAg), is a marker of infectiousness. People with HBeAg have high concentrations of hepatitis B viral DNA and are at high risk of transmitting the infection. The tests may need to be repeated over time to assess the patient's status. ■

Hepatitis B Panel Interpretations

HbsAg	HBsAb	HBcAb	Interpretation
–	–	–	Susceptible to hepatitis B
–	+	+	Immune because of natural infection
–	+	–	Immune because of hepatitis B vaccination
+	–	+ (IgM)	Acutely infected
+	–	+ (IgG)	Chronically infected
–	–	+	Recovering from acute infection; or false-positive HBcAb result; or chronic infection; or immune but HBsAb level too low to detect

Notes: HBsAg is hepatitis B surface antigen. HBsAb is hepatitis B surface antibody. HBcAb is hepatitis B core antibody.
Source: Dr. Tan

Communication With Vaccine Refusers Could Use Some Work

BY SHERRY BOSCHERT
San Francisco Bureau

SAN FRANCISCO — Family physicians and pediatricians could polish their communication skills when talking to parents who are reluctant to immunize their children, judging by results of one of the first observational studies of these encounters in private practice.

A pilot study recruited seven pediatricians and two family physicians in Louisville, Ky., for a "field test" of using "standardized patients" in primary care practice settings, Dr. Kristina Bryant said at the annual meeting of the American Academy of Pediatrics. Standardized patients are actors or actresses who are trained to portray patients and are commonly used in medical schools to help teach and test students, explained Dr. Bryant of the University of Louisville (Ky.). Dr. Bryant is associated with several companies that make vaccines. She is on the speakers bureaus of Sanofi Pasteur and Abbott Laboratories, and she has received research funds from Merck & Co., MedImmune, Wyeth Pharmaceuticals, and GlaxoSmithKline.

In presenting to the physicians, the actresses pretended to be pregnant women looking for a pediatrician. Each woman said that she didn't want to immunize her child because she believed the MMR vaccine causes autism and the varicella vaccine causes neurologic damage. She also said that too many vaccines overload the immune system, that the AAP and the Centers for Disease Control and Prevention are not truthful.

The standardized patients graded physicians after each encounter and four encounters were recorded. Among the four physicians who were recorded, only three discussed the risks and benefits of vaccines, and only two presented evidence to refute the mother's claims that MMR causes autism or that thimerosal is dangerous. Two referred mothers to the AAP and CDC Web sites for more information, and two offered to delay some vaccines—a strategy recommended by the AAP when dealing with reluctant parents. None explored cost as a potential barrier to immunization. Two physicians gave inaccurate information. One said he would have to contact Child Protective Services if the mother refused to vaccinate her child. The other said that the child could not attend public school unless immunized, but Kentucky allows religious exemptions.

"The plus side is that none of these physicians refused to care for this family if the mother refused immunizations, and [all] talked about its being addressed at future visits," Dr. Bryant said. ■

To Do List When Shots Are Snubbed

As many as 70% of pediatricians each year may encounter patients who refuse one or more vaccinations for their children, a 2001 survey of pediatric fellows suggested. The AAP recommends the following steps in these encounters (Pediatrics 2005;115:1428-31):

- Listen to parents' concerns and try to understand them. Tell them the risks and benefits of immunizations, and correct parents' misconceptions.
- Take steps to reduce the pain of injection.
- Consider an alternative vaccination schedule that minimizes the number of injections at each visit, if that's a concern of parents.
- Explore cost as a barrier.
- Document vaccine refusal.
- If possible, avoid discharging vaccine refusers from your practice.

Providers Skeptical About Honey for Cough Study Findings

BY TIMOTHY F. KIRN
Sacramento Bureau

The public were agog over the new study suggesting that a teaspoon of honey helps a child with nighttime cold and cough, but the experts' reaction was more nuanced and varied.

Dr. Lawrence Rosen said that if he had not already known about the study, his patients would have made sure he heard about it.

The study, published in the December issue of the Archives of Pediatric and Adolescent Medicine, received tremendous attention from the public and the press when it was released.

A bedtime dose of buckwheat honey was more effective than was dextromethorphan or no treatment at all for quieting cough and facilitating sleep in children aged 2-17 who had upper respiratory infection (Arch. Pediatr. Adolesc. Med. 2007;161:1140-6).

The study came out shortly after a Food and Drug Administration advisory panel voted that over-the-counter cough and cold medications should not be recommended for children under age 5 years, and many major manufacturers voluntarily pulled from the stores their cough and cold products aimed at infants and toddlers.

"What perfect timing," said Dr. Rosen, a pediatrician who practices in Old Tappan, N.J., and who is a member of the provisional section on complementary, holistic, and integrative medicine of the American Academy of Pediatrics.

Dr. Rosen said he thought the study was well designed and compelling, and that he already recommended honey, with tea, before the study, but the study gives him more reason to do so, particularly since honey is benign for children over 1 year of age.

Parents "are just happy to know there are things that they can do," he said. "They just want to be able to do something."

Some other experts, however, do not have such a high regard for the findings.

"I think it is reasonable to recommend honey for treatment in cough for children over 2 years old based on these results," said Dr. James Taylor, a professor of pediatrics at the University of Washington, Seattle. But "In my own practice I will probably not yet widely recommend honey because the benefits are relatively small, and the appropriate dose and form of honey to use are not well standardized," he said in an interview.

The mechanism of action involved with the honey treatment might only be its demulcent properties, said Dr. Taylor, who has an interest in complementary medicines. "If that is the case, any soothing cough drop might work equally well."

Dr. J. Owen Hendley said he was not impressed with the study, but he probably would recommend honey to patients.

"It is not a knock your socks off kind of study," said Dr. Hendley, a professor of pediatrics in the division of pediatric infectious diseases at the University of Virginia, Charlottesville, who has studied rhinovirus and colds since the 1960s.

The study used parental recall to measure cold improvement, rather than a more objective and definitive measure, noted Dr. Hendley. Moreover, all of the groups in the study had improvement in their cough, even those who received no treatment.

Dr. Hendley said he does not recommend much for a cold since nothing has been shown to have a definite benefit, but he would recommend honey. "I happen to like honey—the price is right. I can't think of anything bad about having a 1-year-old use honey," he added. ■