

# Run Test for Hepatitis A in Likely Candidates Only

*Routine ordering of lab tests for IgM anti-hepatitis A virus often leads to false-positive results.*

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Testing for hepatitis A infection should be reserved for patients who have symptoms consistent with the diagnosis or who have had recent exposure to a person known to be infected with hepatitis A, the Centers for Disease Control and Prevention said.

Specifically, IgM anti-hepatitis A virus (HAV) testing should not be done routinely to screen people who have liver function test abnormalities or who are suspected of having hepatitis C, the CDC said (MMWR 2005;54:453-6).

After receiving multiple reports of positive IgM anti-HAV test results in individuals who did not have clinical illness consistent with HAV infection, the CDC investigated the clinical and epidemiologic characteristics of these cases for the first time. The CDC's findings suggest that these people are unlikely to have the illness

unless they have been exposed recently to someone with acute HAV infection. The findings also indicate that their contacts are unlikely to require immunoprophylaxis. Therefore, testing these individuals only serves to lower the predictive value of the IgM anti-HAV test.

In Connecticut, the state health department investigated 127 positive IgM anti-HAV test results; 108 of the individuals had clinical illness consistent with hepatitis A infection. Of the other 19 persons (aged 28-88 years), 3 had elevated alanine aminotransferase (ALT) concentrations and 3 had a previous report of a positive IgM anti-HAV test but did not have illness that met the case definition at that time either.

Among 10 such people in Alaska (aged 9-77 years), 7 had abnormal ALT concentrations, suggesting the presence of liver injury or disease. However, six did not have an illness with acute onset, while the seventh had an acute illness traced to acetaminophen toxicity. The other three

were asymptomatic. One person previously had a positive IgM anti-HAV test.

In a third investigation involving six U.S. counties with demographic compositions representative of the U.S. population, 140 persons were reported to have a positive IgM anti-HAV test result. Of those, 62% (87) did not have an illness consistent with the case definition, while 38% (53) did.

The 87 persons who did not have illness meeting the case definition were significantly older and more likely to be female (this was also the case in Connecticut). Of 31 for whom serum samples were available for repeat testing at the CDC, only 2 tested positive for IgM anti-HAV. Of 25 specimens tested for HAV nucleic acid, only 1 (4%), from a 77-year-old man, had detectable HAV RNA. In contrast, 34 of 51 specimens from persons with both clinical and laboratory evidence of HAV infection had detectable HAV RNA.

A repeat test of the 77-year-old man's specimen was negative for IgM anti-HAV, suggesting that his RNA test was a false positive, the CDC said.

A positive IgM anti-HAV test in a person without typical symptoms of hepatitis A

infection might indicate asymptomatic acute HAV infection, previous HAV infection with prolonged presence of IgM anti-HAV, or a false-positive result. The findings from these reports suggest that in older adults, the most likely explanations are a false-positive result or a HAV infection that occurred months to years previously, rather than more recent infection requiring consideration of postexposure immunoprophylaxis for contacts.

Published guidelines for the work-up of abnormal liver enzyme tests do not include IgM anti-HAV testing, yet physicians may be tempted to order a multitest "hepatitis panel" offered by some laboratories at a cheaper price than the individual tests, James Hadler, M.D., state epidemiologist in the Connecticut Department of Public Health in Hartford, told this newspaper.

"It is this kind of reflex bargain basement testing that may result in getting back false-positive results," Dr. Hadler said.

HAV infection causes an acute illness with discrete onset of fatigue, abdominal pain, loss of appetite, intermittent nausea and/or vomiting, and jaundice or elevated serum alanine aminotransferase levels. ■

## Severe Blunt Liver Injury Often Best Treated Nonoperatively

BY JEFF EVANS  
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TUCSON, ARIZ. — Nonoperative management of severe blunt liver injuries appears to be the best strategy of caring for hemodynamically stable patients, according to findings from a retrospective review of 561 patients.

Choosing between nonoperative and operative treatment schemes seems to make a difference, however, only in patients with the most severe liver injuries, A. Britton Christmas, M.D., reported at the annual meeting of the Central Surgical Association.

Prior to the 1990s, physicians diagnosed liver injuries primarily through peritoneal lavage, CT scanning, or surgical exploration. The care of suspected liver injuries included repair of vascular, parenchymal, or biliary structures and drainage of the perihepatic spaces to control biliary leaks and to avoid sepsis, said Dr. Christmas, a surgical resident at the University of Louisville (Ky.).

Improvements in imaging technologies for diagnosing solid-organ injuries and an increased interest in critical care monitoring have prompted a paradigm shift toward nonoperative management. In hemodynamically stable patients with blunt liver injury, nonoperative management has evolved into the standard of care at most U.S. trauma centers, Dr. Christmas said.

Although the reported success rate for nonoperative management of hepatic trauma ranges from 82% to 100%, justification for the preference of either operative or nonoperative management remains ambiguous, he said.

Dr. Christmas and his colleagues reviewed 561 cases of blunt liver injury in the trauma registry at the university during 1993-2003.

Operative management—defined as un-

dergoing an operation within 24 hours after admission—in 183 patients led to higher overall mortality than did nonoperative management in 378 patients (18% vs. 5%); liver-related mortality similarly was higher in those who received operative management (11% vs. 0.4%). Hemodynamic instability occurred in 20% of the operatively managed patients but in none of those managed nonoperatively.

Operative mortality rose with the grade of hepatic injury, such that 7% of patients with grade 1 liver injury and 92% with grade 5 injury died. Patients with severe liver injury (grades 3-5) who were treated operatively had significantly higher mortality than did those treated nonoperatively.

The management strategy for grade 2 or 3 liver injury did not significantly impact mortality.

The percentage of patients able to be managed nonoperatively dropped as the grade of liver injury increased; 82% of patients with grade 1 injury and 32% with grade 5 injury received nonoperative care. One patient died as a result of nonoperative management when he bled after angiographic embolization and required an operation on the first post-injury day. He died on the third day after injury.

Intraabdominal injuries associated with blunt liver injury required an operation in 19% of nonoperatively managed patients. A total of 3% of patients who originally received nonoperative management ultimately required laparotomy after the first 24 hours.

Adjunctive surgical procedures, such as biliary drainage, endoscopic retrograde cholangiopancreatography, and angiographic embolization, were performed with a high degree of success in 42 patients managed nonoperatively, Dr. Christmas said. ■

## Suspect a Bile Leak When Blunt Liver Injury Requires Embolization

BY JEFF EVANS  
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TUCSON, ARIZ. — Bile leaks most often accompany blunt liver injury in patients with the most severe liver trauma and in those who need angiographic embolization, reported Wendy L. Wahl, M.D., at the annual meeting of the Central Surgical Association.

In a review of 281 adults with blunt liver injury during 1997-2004, Dr. Wahl and her associates at the University of Michigan, Ann Arbor, determined that bile leaks usually stem from high-grade liver injuries in patients initially assigned to receive angiographic embolization. They found that hepatobiliary iminodiacetic acid (HIDA) scanning, or cholescintigraphy, is often the optimal method to diagnose bile leaks after nonoperative management.

The investigators divided the patients into three groups:

- ▶ An observation group of patients for whom there was no intention to operate or use angiographic embolization at admission.

- ▶ An operative group of patients who immediately went to the operating room from the emergency department or CT scanner. They included patients who first went to the operating room and then received angiographic embolization.

- ▶ An arteriography group of patients who received an angiogram, with or without embolization

Operative and arteriographic patients had significantly higher liver Abbreviated Injury Scale (AIS) scores

than did observed patients (3.2 and 4 vs. 2.4, respectively).

The need for arteriography was an independent risk factor for the development of a bile leak, even if a patient was sent to get angiographic embolization but did not actually receive it, said Dr. Wahl, director of the trauma-burn ICU at the university. Patients in the arteriographic group had a significantly higher rate of bile leak (43%) than did patients in the operative (19%) or observation groups (2%).

Liver AIS scores were significantly higher in patients who developed bile leaks (4.2) than in those who did not (2.6). In fact, all bile leaks occurred in the 57 patients who had high-grade liver injuries (grade 4 or higher).

Clinicians detected most of the bile leaks with HIDA scans, but they detected some during laparotomy, laparoscopy, endoscopic retrograde cholangiopancreatography, or percutaneous transhepatic cholangiography. "If the patient had a negative HIDA scan, we did not find that the patients developed a bile leak after their initially negative HIDA scan," she said.

On average, patients who received treatment for a bile leak by day 4 had a significantly shorter hospital stay than those treated after that (16 vs. 32 days). Each additional day of a delayed bile leak diagnosis after day 4 added 3.3 days to the length of stay.

Dr. Wahl's group now follows a guideline of doing a HIDA scan on day 2 or 3 in patients who have had a high-grade liver injury, an angiographic embolization, or just an angiogram for their liver-related injuries. ■