

# Immunization Key for Patients on Transplant List

ARTICLES BY  
ROXANNE NELSON  
Contributing Writer

SEATTLE — Liver transplant candidates, along with members of their households, should receive all recommended vaccines well before transplantation.

It is important that transplant candidates are vaccinated early in the course of their disease because the response to many vaccines is decreased when the patient is in organ failure, said Hugo Vargas, M.D., at the American Transplant Congress.

"We really need to target patients before they are put on the waiting list for a transplant," explained Dr. Vargas of the division of transplantation medicine at the Mayo Clinic, Scottsdale, Ariz. "We need to target cirrhotic patients and prevent the development of hepatitis and pneumonia."

Ideally, vaccination status should be reviewed during the patient's first clinic visit, and a vaccine strategy should be developed at that time.

It is especially important that live vaccines, such as varicella, be administered before transplantation is performed as they cannot be given afterward, said Dr. Vargas.

"You want to know the patient's history, what they are

at risk for, and then check their vaccination status," he explained. "It is important to find out who lives in the household. Are there children? Have they been immunized? Are there any live vaccines needed for the patient or the household?"

Two of the most important vaccines for a liver transplant candidate are hepatitis A (HAV) and hepatitis B (HBV). There is strong evidence that HAV can worsen outcomes in this population, and morbidity can be as much as 50 times higher with HAV and HBV coinfection.

Some data suggest that mortality for patients infected with acute HAV is 23% higher than for those without hepatitis, and HAV can sometimes cause fulminant liver disease.

Immunization against HBV is also important. However, the response rate to the vaccine is low when chronic liver disease is present.

"My recommendation is to identify if your patients are infected, and if they are seronegative, you should schedule a vaccine," Dr. Vargas said, "because once the patient has been transplanted, the response is very poor."

Patients with cirrhosis are at increased risk for pneumonia, and the Centers for Disease Control and Prevention recommends that this population be vaccinated for pneumonia. Adult patients should be given the pneumococcal polysaccharide 23-valent vaccine, which offers protection against *Streptococcus pneumoniae*, the most common cause of adult community-acquired and nursing home-acquired pneumonia. The vaccine needs to be repeated after 5 years if the patient is younger than 65.

Certain individuals, such as those in the military, travelers to high-risk areas, and college freshmen living on campus are also candidates for the meningococcal vaccine, which protects against meningitis caused by

*Neisseria meningitidis*.

Dr. Vargas also pointed out the importance of getting vaccinated annually for influenza A, with the injectable formulation; patients with cirrhosis, however, will need two injections to achieve an 80% response.

"Overall, the strategy needs to consider the vaccination status not only of the patient, but of the family and health care workers as well," he said. ■

**Transplant candidates should be vaccinated early in the course of their disease because response to many vaccines drops with organ failure.**

## Heart Disease Not an Automatic Contraindication to Liver Transplant

SEATTLE — Underlying coronary artery disease should not be an automatic contraindication to orthotopic liver transplantation, Kabir Julka, M.D., said at the American Transplant Congress.

Coronary artery disease (CAD) is a relative contraindication to liver and other organ transplants, but a retrospective review showed no differences in either peri- or postoperative surgical outcomes in orthotopic liver transplantation patients with stable disease who were well managed, compared with patients without CAD, explained Dr. Julka of Northwestern University, Chicago.

Patients with CAD are generally not considered good candidates for transplantation because of the belief that they are at higher risk for complications.

However, the literature regarding surgical outcomes in patients undergoing orthotopic liver transplantation with underlying CAD is sparse.

"Liver transplantation is a high-risk procedure, and we did try to select the most optimized patient population. But in our experience at Northwestern, we noticed that some of our patients with treatable heart disease appeared to do well following a transplant, so we decided to see if there were differences in outcome," Dr. Julka said in a poster presentation at the congress, which was cosponsored by the American Society of Transplantation and the American Society of Transplant Surgeons.

In a chart review of 298 patients who had undergone orthotopic liver transplantation during August 1993–January 2003, Dr. Julka and col-

leagues identified 21 patients with CAD.

Of this group, six patients had a pretransplant or simultaneous bypass; eight underwent percutaneous transluminal coronary angioplasty, stent placement, or both; and the remaining patients were managed medically.

The 21 patients with CAD were then matched to controls by age, gender, etiology, and severity of liver disease.

The researchers compared the two groups in terms of peri- and postoperative complications, time to extubation, length of intensive care unit and hospital stays, and 1-year graft and patient survival.

There were more perioperative complications in patients with coronary artery disease, compared with control patients (five vs. one, respectively), but the difference was not statistically significant.

Postoperative complications (five vs. four), median time to extubation (2 days vs. 1 day), median length of ICU stay (3 days vs. 2 days), or median length of hospital stay (8 days vs. 5 days) did not differ significantly between the two groups.

The 1-year graft survival rate for CAD patients was 81%, vs. 77% for controls; patient survival rates also did not differ (81% vs. 90%).

At 1 year after transplantation, there really wasn't any difference between the patients with CAD and those without it, said Dr. Julka, who acknowledged that the patient population was small.

"If we had more patients to power it, maybe we might have seen some differences," he said. ■

## Livers from Donors After Cardiac Death May Be Fraught with Risks

SEATTLE — Livers from donors following cardiac death are being used to increase the supply of organs, but may be associated with higher rates of biliary complications and retransplantation, compared with those from donors with beating hearts, said Wendy Grant, M.D.

"Our recent experience supports these findings," she said at the American Transplant Congress.

Given the current shortage of living-donor kidneys and livers available for transplantation, it has been necessary to look for any new source of organs to help prevent deaths on the waiting list. Among potential underused sources are donations after cardiac death (DCD), but there have been concerns about short- and long-term recipient outcomes.

Dr. Grant and her colleagues from the University of Nebraska, Omaha, performed a retrospective review of liver transplantation during a 10-month period in 2004, comparing donor and recipient demographics for both DCD and heart-beating donor (HBD) transplants. A total of 67 livers were transplanted into 63 patients, including 12 DCD organs.

The two groups of donor recipients were similar in age, Model for End-Stage Liver Disease score at the time of transplant, and hepatitis C status.

A higher percentage of DCD liver recipients had hepatocellular carcinoma, however, compared with those who received HBD organs (42% vs. 13%).

The time from extubation to organ flush was 15-36 minutes, with an average time of 24 minutes, said Dr. Grant. There was no incidence of primary organ malfunction in either group.

Patient survival at 9 months did not differ significantly between the DCD and HBD groups (100% vs. 88%), nor did the rate of graft survival (83% vs. 96%). "Biliary com-

plications were higher in the DCD livers," said Dr. Grant. Three DCD patients had complications, which occurred at 18, 20, and 44 days post transplant. One patient underwent a second transplant 24 days after the initial surgery. The second procedure was for diffuse bile duct necrosis. Two patients developed biliary casts, which were subsequently resolved.

The reasons for the development of biliary complications are unclear, as there were no obvious differences between the patients in the population who received livers from donors after cardiac death.

"We tried to see if there was any one factor, but there was nothing that jumped out. Everything was similar between the patients who had biliary complications and those who didn't," Dr. Grant said at the congress, which was cosponsored by the American Society of Transplantation and the American Society of Transplant Surgeons.

"These grafts offer another source, as we are facing a shortage of organs, but they should be used selectively and with informed consent from the recipients," she concluded. ■

### Guide Addresses Alcohol Screening

The National Institute on Alcohol Abuse and Alcoholism has released a new guide for physicians to help identify and care for patients with heavy drinking and alcohol use disorders.

"Helping Patients Who Drink Too Much: A Clinician's Guide" is available free online and in print, with a pocket-size version included. To download, visit [www.niaaa.nih.gov](http://www.niaaa.nih.gov). To order the print version, call 301-443-3860.