

HBV JOURNAL REVIEW

Volume 3, Issue 8

August 01, 2006

Hepatitis B

Christine Kukka

Viral Load – More than HBeAg Antibody Status – Predicts Survival for Liver Cancer Patients

A report published in the August 2006 issue of the journal of *Alimentary Pharmacology & Therapeutics* followed 233 Hong Kong liver cancer patients to see what factors best predicted their survival.

About 78% of those studied had liver cancer caused by hepatitis B virus (HBV) infection. Researchers evaluated weight loss, jaundice, time of diagnosis, encephalopathy, alpha fetoprotein (AFP) levels (which can indicate the presence of tumors), portal vein thrombosis, extrahepatic metastasis, and treatment to see

what predicted survival the most.

Among the HBV-infected patients with cancer, high viral load or quantity of HBV DNA circulating in the bloodstream and portal vein thrombosis best forecast who survived and who did not. Also, the earlier the cancer was diagnosed, the greater the chance of survival.

Of interest, 76% of chronic hepatitis B patients with liver cancer tested negative for the hepatitis B “e” antigen (HBeAg), which usually indicates a high viral load.

Hepatitis B Vaccine Much Less Effective in Hepatitis C Patients

Greek researchers vaccinated people infected with the hepatis-

C virus (HCV) and healthy people against hepatitis B to see how people already infected with viral hepatitis responded.

They vaccinated 70 people infected with HCV who had never been treated, 22 HCV patients receiving pegylated interferon and antiviral treatment, and 121 healthy people.

Writing in the July 2006 *World Journal of Gastroenterology*, the researchers reported the uninfected group developed protective hepatitis B antibodies at a much higher rate than the two HCV-infected groups.

The vast majority of HCV patients who did not develop antibody protection were infected by HCV genotype 1.

HBV Journal Review
A publication of the Hepatitis C Support Project

Executive Director
Editor-in-Chief,
HCSP Publications
Alan Franciscus

Contributor
Christine Kukka

Managing Editor,
Webmaster
C.D. Mazoff, PhD

Contact Information:
The Hepatitis C Support Project
PO Box 427037
San Francisco, CA 94142

www.hbvadvocate.org

© 2006

Hepatitis C Support Project

Entecavir Better than Lamivudine in HBeAg-Negative, Previously Untreated Patients

A study, published in the July 2006 *Journal of Hepatology*, found the antiviral entecavir (Baraclude) to be more effective in HBeAg-negative patients who had never been treated than in those who had been previously treated with the antiviral lamivudine (Epivir-HBV).

Antivirals work by meddling with HBV’s genetic material, which makes it difficult for the virus to replicate.

Researchers noted that patient livers were healthier and more patients had lower viral load and normal alanine aminotransferase (ALT) levels after 48 weeks of entecavir treatment. ALT is released when liver cells are damaged or die.

The results were published after a Phase 3, double-blind trial study involving 715 patients who received either 0.5 mg of entecavir or 100 mg of lamivudine once daily for a minimum of 52 weeks.

Liver health improvement was noted in 226 of 314 patients in the

entecavir group (72%) and 195 of 314 patients in the lamivudine group. More patients in the entecavir group had undetectable HBV DNA levels (67% vs. 36%) and normal ALT levels (68% vs. 60%).

The Antiviral Adefovir Appears Safe in Chinese Patients

A large, double-blind study of 480 Chinese HBeAg-positive patients treated with adefovir (Hepsera) for 52 weeks confirmed the antiviral was safe and effective in this population, according to a report published in the July 2006 issue of *Hepatology*.

Shanghai researchers treated the patients with 10 mg of adefovir daily. They quickly noted a significant difference in reduction of viral load after just 12 weeks between the treated and an untreated control group.

Additional declines in HBV DNA and normalization of ALT were noted: about 67% had HBV DNA levels less than 100,000 copies/mL, and 28% had undetectable viral load, while 79% achieved normal ALT levels.

Patients who had developed viral resistance to lamivudine after prolonged treatment with that antiviral also responded well to adefovir.

No adefovir-related viral mutations were identified during the 52-week study.

“In conclusion, treatment with adefovir at 10 mg daily over 52 weeks was safe and effective in Chinese subjects with HBeAg-positive chronic hepatitis B and led to no drug resistance,” they reported. Researchers plan to continue to monitor the adefovir-treated group for an additional four years.

HBV Genotype G in Blood and Plasma Donation Went Undetected

Regular blood screening tests failed to notice HBV infection in plasma and platelets from a regular blood donor who had HBV genotype G. This rare genotype may be the reason that tests did not identify the infection, according to a report in the July 2006 issue of *Hepatology*.

An acute HBV infection was diagnosed in the donor, and tests on

his past and present blood donations revealed HBV DNA was present. The donor had HBV genotype G, and neither HBeAg nor “e” antibodies (anti-HBe) were found in his blood donations.

The delay in detecting HBsAg in both the donor and recipient samples may be due to tests that failed to pick up on the genotype G-specific HBV, researchers suggested.

“Estrogen Receptors” May Increase Risk of Liver Cancer in the HBV-Infected

Some hepatitis B patients who have unique genetic protein sequences in their cells that easily bind to estrogens may be at higher risk of liver cancer, according to a study by Chinese researchers published in the June 2006 issue of *Gastroenterology*.

Researchers noted that humans and animals that have more “estrogen receptors” in certain cells than normal develop liver cancer at a higher rate than those with lower estrogen receptors.

The researchers recruited 248 HBV carri-

ers with liver cancer who had never been treated; another 239 HBV carriers without liver cancer constituted the control group.

The researchers examined six estrogen receptor-1 polymorphisms and found those with them had higher rates of liver cancer.

The researchers concluded that people who are genetically predisposed to produce an increased messenger RNA level of estrogen receptor-1 appear “to be more prone to hepatocellular carcinoma (liver cancer).”

Maximum Allowable Doses of Tylenol Cause Abnormal Liver Test Results

A study of 106 healthy adults found the maximum allowable dose of Tylenol (acetaminophen), taken for two weeks produced abnormal liver tests, according to a report published in the July 5, 2006, issue of the *Journal of the American Medical Association*.

The results surprised researchers and may have implications for people with viral hepa-

titis or those who have livers damaged by alcohol use who take Tylenol. In the study, nearly 40 percent of people had elevated ALT levels after two weeks of treatment with the maximum allowable dose.

“I would urge the public not to exceed four grams a day. This is a drug that has a rather narrow safety window,” study co-author, Dr. Neil Kaplowitz of the University of Southern California, told reporters. Heavy drinkers should take no more than two grams daily, Kaplowitz said.

Acetaminophen is more popular than aspirin or ibuprofen. Each week, one in five U.S. adults uses it for pain or fever, a 2002 survey found.

Viral Load after Six Months of Interferon May Predict Hepatitis B Future

A group of Greek researchers followed 63 patients with HBeAg-negative hepatitis B who had been treated with conventional interferon for one year and then followed them for six years to see what impact the treat-

ment had.

Writing in the August 2006 issue of the journal of *Alimentary Pharmacology & Therapeutics*, the researchers reported that initially 34.91% and 33.33% of patients experienced reduced viral load and improved liver health at six and 12 months respectively after treatment began.

They reported that younger patients with low HBV DNA levels after six months of interferon treatment had a lower risk of viral relapse, compared to those with higher levels (higher than 10,000 copies/mL) and older age.

After six years, 19.04% of patients sustained their good results, and 4.8% of them had developed hepatitis B surface antibodies (anti-HBs), which indicates the body has cleared the virus completely.

The researchers suggest that measuring viral load six months into treatment may predict who will respond to interferon and how the infection may progress in the individual in the future.

Measuring Osteopontin, Secreted by Liver Cancer Tumors, May Better Identify Cancer

South Korean researchers measured osteopontin (OPN), a secreted glycoprotein that is found when some tumors are present, to see if measuring this protein in people with hepatitis B might be an effective predictor of liver cancer. Currently, doctors measure alpha fetoprotein (AFP) levels in blood for indications of tumors, but this is not a highly reliable indicator of liver cancer.

Writing in the July 2006 issue of the *American Journal of Gastroenterology*, the researchers reported they measured OPN, AFP and prothrombin (induced by an absence of vitamin K) in 62 liver cancer patients, 60 patients with chronic liver diseases, and 60 healthy people.

OPN levels in liver cancer patients were significantly higher than those patients with chronic liver diseases or in the healthy group. OPN levels were highest in those with advanced cancer and tumors.

OPN was found in malignant liver cells and “cancer-infiltrating macrophages,” but not in the non-cancerous liver cells.

Newly-Identified Mutation Allows Co-existence of Surface Antigens and Antibodies

When HBsAg becomes undetectable and surface antibodies (anti-HBs) appear, doctors usually assume a patient has cleared the virus. However, in some cases, a patient can test positive for both HBsAg and anti-HBs.

Chinese researchers recently identified the mutations in HBV that allow the virus to replicate despite the presence of anti-HBs.

Reporting in the July 2006 issue of the *World Journal of Gastroenterology*, researchers studied the HBV DNA from 11 patients who had both HBsAg and anti-HBs, and 12 who were positive for only HBsAg.

They found 41 mutations within the HBsAg gene protein of HBV in 15 patients (10 with co-existing HBsAg and anti-HBs). Mutations that were able to resist

the antiviral lamivudine were found in three patients with both surface antigen and antibodies.

The presence of these mutations did not appear to affect ALT or viral load.

These mutations, researchers concluded, may contribute to the development of antibodies, but the antibodies unfortunately do not prevent the mutated HBV from replicating.

Sexual Transmission of HBV Continues to Be Key Infection Conduit

In a study of acute hepatitis B cases reported in the Canadian city of Vancouver between 2000 and 2003, sexual transmission appears to be a key mode of HBV infection, according to a report in the July 2006 issue of *The Canadian Journal of Gastroenterology*.

Of 78 acute hepatitis B cases reported to Vancouver health authorities, the three most frequently identified risk factors were men who have sex with men (21.9%), heterosexual activity with two or more partners (14%) and injecting drug use (14.0%). Sexual contact with an HBV car-

rier was identified in 9.4% of patients.

Other than Canada, Asia was the most common birthplace (29.5%) of the patients.

“Sexual transmission is a major mode in the spread of HBV in Vancouver,” researchers noted. “Existing public education, surveillance and vaccination strategies for HBV need to be strengthened to address those engaging in risky behaviors.”

