

## **Sustained Virological Response Linked With Improved Survival for HCV Patients**

Science News... Dec. 25, 2012 — Among patients with chronic hepatitis C virus infection and advanced hepatic fibrosis (development of excess fibrous connective tissue), sustained virological response (SVR) to interferon-based treatment was associated with a lower risk of all-cause mortality compared with patients without SVR, according to a study in the December 26 issue of JAMA.

"Chronic hepatitis C virus (HCV) infection is a major cause of cirrhosis, hepatocellular carcinoma (HCC), and end-stage liver disease. The incidence of HCV-related cirrhosis and its complications is expected to increase in upcoming years. Davis et al estimated that currently 25 percent of the approximately 3.5 million U.S. patients with chronic HCV infection have cirrhosis and that the proportion of patients with cirrhosis is likely to increase up to 45 percent by 2030," according to background information in the article.

"Sustained virological response is defined as absence of viremia [the presence of a virus in the blood] 24 weeks after cessation of all antiviral medication. Although SVR has long-term durability, data on the relationship with improved survival to support its use as a surrogate end point of antiviral therapy is scarce. Demonstrating direct clinical benefits would better justify the use of intensive and costly antiviral therapy ..." the authors write.

Adriaan J. van der Meer, M.D., of Erasmus MC University Medical Center, Rotterdam, the Netherlands and colleagues conducted a study to examine whether achievement of SVR vs. without SVR is associated with a prolonged overall survival in patients with chronic HCV infection and advanced hepatic fibrosis. The study, conducted at five tertiary care hospitals in Europe and Canada, included 530 patients with chronic HCV infection who started an interferon-based treatment regimen between 1990 and 2003, following histological proof of advanced hepatic fibrosis or cirrhosis. Complete follow-up ranged between January 2010 and October 2011. The patients were followed up for a median (midpoint) of 8.4 years. The baseline median age was 48 years and 369 patients (70 percent) were men.

There were 192 patients (36 percent) who achieved SVR; 13 patients with SVR and 100 without SVR died (10-year cumulative all-cause mortality rate, 8.9 percent with SVR and 26.0 percent without SVR). In further analysis, the researchers found that SVR was associated with a reduced risk of all-cause mortality and liver-related mortality or transplantation. Other baseline factors significantly associated with all-cause mortality included older age, HCV genotype 3 infection, presence of diabetes, and a history of severe alcohol use. Of the 100 deaths in patients without SVR, the cause was liver-related in 70 patients (70 percent), not liver-related in 15 percent of patients, and unknown in another 15 percent.

The 10-year cumulative incidence rate of liver-related mortality or transplantation was 1.9 percent with SVR and 27.4 percent without SVR. After 10 years, the cumulative occurrence of HCC was 5.1 percent in patients with SVR and 21.8 percent in patients without SVR. The 10-year

cumulative liver failure rate was 2.1 percent in patients with SVR vs. 29.9 percent in patients without SVR.

"In our international, multicenter, long-term follow-up study, SVR was associated with prolonged overall survival. The risk of all-cause mortality was almost 4-fold lower in patients with SVR compared with patients without SVR. Our study with a long follow-up duration demonstrated a lower risk for all-cause mortality in patients with chronic HCV infection and advanced hepatic fibrosis who achieved SVR. In addition, we were able to further establish and quantify the risk reduction of HCC, liver failure, and liver-related mortality or liver transplantation in patients with SVR," the authors conclude.