

## **HCV RNA Does Not Always Mean Treatment Failure**

Lara C. Pullen, PhD

March 12, 2015

Patients with low levels of quantifiable hepatitis C virus (HCV) RNA at the end of treatment may still have had a successful response to treatment, researchers report in an article published online March 2 in *Clinical Infectious Diseases*.

Directly acting antiviral therapy allows for shorter treatment duration and results in higher rates of sustained virologic response (level 12) than traditional interferon-containing regimens, but it has not been clear whether the presence of HCV DNA was predictive of treatment failure.

Therefore, Sreetha Sidharthan, MD, from the National Institutes of Health in Bethesda, Maryland, and colleagues studied the ability of HCV RNA levels at the end of treatment to predict the efficacy of sofosbuvir-containing, interferon-free HCV regimens of directly acting antivirals.

They report the results of two small clinical trials. The first trial included two groups: one group had 35 patients who received sofosbuvir (400 mg/day) with weight-based ribavirin for 24 weeks, and the second group of 25 patients received sofosbuvir with low-dose ribavirin (600 mg/day) for 24 weeks.

Five patients from this study did not have evaluable data and so were excluded from analysis. Thus, the combined sofosbuvir and ribavirin group contained 55 patients.

The second trial included three treatment groups: one group had 20 patients who received sofosbuvir and ledipasvir for 12 weeks; another group had 20 patients who received sofosbuvir, ledipasvir, and GS-9669 for 6 weeks; and a third group had 20 patients who received sofosbuvir, ledipasvir, and GS-9451 for 6 weeks. One patient in the last group did not have evaluable data and was excluded from analysis.

All of the patients were treatment-naive and infected with HCV genotype 1a.

All patients treated with sofosbuvir and ribavirin had HCV RNA levels less than the level of quantification at the end of treatment. Only 69%, however, achieved sustained virologic response level 12.

Of the patients treated with sofosbuvir, ledipasvir, and either GS-9669 or GS-9451, 90% to 100% had HCV RNA below the level of quantification (depending on the assay used, Roche COBAS TaqMan HCV test or the Abbott RealTime HCV assay), and only one patient relapsed.

Overall, six patients had HCV RNA that was detectable by the Abbott assay at the end of treatment. Despite the presence of detectable HCV RNA, all six achieved sustained virologic response level 12.

Typically, measurements of HCV RNA have been useful in predicting treatment efficacy and guiding duration of interferon-containing therapy. These results suggest that HCV RNA that is detectable by the Abbott assay does not necessarily signal therapeutic failure.

One coauthor is an employee of Gilead Sciences Inc. The other authors have disclosed no relevant financial relationships.

*Clin Infect Dis*. Published online March 2, 2015