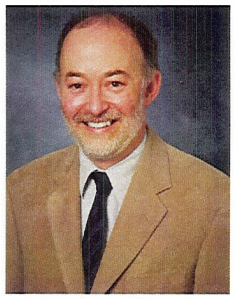
New Treatments for Hepatitis C

by Anthony Post, MD



HEPATITIS C (HCV) is a virus that infects the livers of over 4 million Americans. Most people with HCV do not know when they acquired the infection and do not experience any symptoms until the late stages of the disease. Complications of late stage disease include cirrhosis and hepatocellular carcinoma.

Treatments are currently available for HCV which comes in 6 different Genotypes, type 1 being the most common in the U.S. The current standard of care therapy for HCV involves weekly injections of pegylated interferon with daily oral ribavirin. The course of treatment ranges from 24 to 48 weeks depending on the Genotype. Treatment responses range from 20-80% depending on the stage of disease, ethnic group of the infected individual, and Genotype with an average of 50% of patients loosing the infection after a course of treatment. Interferon-Ribavirin therapy is complicated by multiple side effects including anemia, rashes, irritability, depression , myalgias and headaches. Clearly new more effective treatments with less side effects are necessary.

It has been over a decade since a new agent in the treatment of HCV has been introduced. We are currently on the threshold of the release of at least two new treatments that will significantly improve HCV permanent viral eradication, also known as sustained viral response (SVR). The new compounds are called protease inhibitors. Because of high resistance rates when these agents are used alone they will need to be used with pegylated interferon and ribavirin to be effective in producing a SVR.

The likely first agent to be released, later this year, is telaprovir (Vertex Pharmaceuticals). Telaprevir, when used with pegylated interferon and ribavirin in the most difficult to treat Genotype 1 patients has shown over a 70% SVR rate. Even patients who have responded to interferon and ribavirin in the past and have relapsed after the discontinuation of therapy have shown a 69-76% SVR rate when retreated with pegylated interferon, ribavirin and telaprevir. Another protease inhibitor boceprevir (Merck Pharmaceuticals) , will likely be approved this year or in early 2012. When used with pegylated interferon and ribavirin in genotype 1 patients its results are very similar to those of teleprovir with a 74% SVR rate after 48 weeks of treatment.

These outstanding rates of viral clearance do not come without a cost both symptomatically and financially.

Telaprovir causes rashes that occasionally lead to discontinuation of therapy while boceprevir is associated with anemia, headache and nausea. The cost of treatment of HCV is likely to rise significantly with the introduction of these new agents.

A novel compound Nitazoxanide (approved in the U.S. to treat diarrhea caused by cryptosporidium or Giardia) deserves attention because when used with pegylated interferon and ribavirin it seems to increase SVR rates with limited side effects. Preliminary studies of the drug given with pegylated interferon and ribavirin to genotype 4 patients in Egypt (who respond like genotype 1 patients) showed an 80% SVR rate. Studies in American genotype 1 patients are in progress.

In summery very exciting new agents used to treat HCV are likely to become available in the next year that will allow a majority of patients with HCV to permanently clear this potentially life threatening infection.

Dr. Anthony Post is Medical Director of Liver Transplantation, Transplant Institute, University Hospitals Case Medical Center in Cleveland. He is also an associate professor at Case Western Reserve University.