Recently Approved Drugs Offer New Hope for Patients with Hepatitis C

Drugs may also be useful in liver transplant patients.

Hepatitis C is a silent killer that currently infects nearly 4 million people in the United States. The chronic viral disease, which causes cirrhosis and liver cancer, often goes undetected and undiagnosed. Symptoms may not appear for two decades or more. Until recently, first-line drug therapy consisted of grueling, protracted, and often ineffective treatment with the antivirals interferon and ribavirin, whose side effects include anemia, insomnia, anxiety, and depression, among many others.

That scenario has changed since the Food and Drug Administration last year approved Incivek (telaprevir) and Victrelis (boceprevir) to treat hepatitis C. Some 80 to 85 percent of patients can be cured with these medications—up from 50 percent under the old regimen, reports Hillel Tobias, MD, PhD, clinical professor of medicine and surgery and medical director of the Liver Transplant Service at NYU Langone Medical Center.

Dr. Tobias participated in the clinical trials for the drugs and considers them "a spectacular breakthrough." One of his patients, 60-year-old Rachel (not her real name), discovered her infection in 2006. She spent a year and a half taking ribavirin and injecting herself with interferon, and suffered from numerous side effects. She was happy when the regimen ended, but then her viral load resurfaged.

Rachel suspects that she was infected sexually, though this method of transmission accounts for only 10 percent of reported hepatitis C cases, according to the Centers for Disease Control and Prevention. The virus is nearly always transmitted via a blood-borne route such as shared needles. When Dr. Tobias offered Rachel a 12-week course of Incivek, she jumped at the chance. Both Incivek and Victrelis are protease inhibitors, which impede the action of enzymes that the virus needs to produce new virus particles. As a backup, patients also take ribavirin and interferon for 12 weeks, and then interferon and ribavirin alone for an additional 12 weeks. Patients must take each dose of Incivek—two pills, three times a day—with 20 grams of fat. A self-described chocoholic, Rachel assumed it would be easy, until she realized that the interferon was changing her sense of taste and smell, making fatty foods unappetizing. Nevertheless, she stayed the course and is now virus free.

These new treatments may also transform the outlook for liver transplant patients, according to Lewis Teperman, MD, chief of the Division of Transplant Surgery and director of the Mary Lea Johnson Richards Organ Transplant Center. With hepatitis C now the most common reason for liver transplantation in the United States, Dr. Teperman and his colleagues are piloting the use of Incivek and Victrelis following transplantation, with encouraging results. Hepatitis C recurs in every previously infected patient who receives a transplanted liver—most likely because the virus hides out elsewhere in the body—and about 40 percent of posttransplant patients develop fibrosis and/or cirrhosis of the liver within five years. Of the 10 patients Dr. Teperman has treated with the new protease inhibitors, the majority are now virus free.

Ultimately the goal is to prevent the need for transplantation by curing the disease before it can destroy the liver. “We can recapture the horse after the gate is open,” Dr. Teperman says, “but I’d much rather make sure the horse never leaves the stable.”

That goal may be within sight, as newer, better drugs now in the pipeline—polymerase inhibitors and nucleoside analogs, which further inhibit viral replication—become available and eventually make interferon obsolete.

—Josie Glausiusz