Cures With Benefits

How does curing hepatitis C translate into benefits to health and well-being?

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It's only natural to want to evict an unwelcome houseguest like hepatitis C virus (HCV). But what are the actual benefits of curing a virus that may take decades to cause significant damage to the liver? While more research is still needed, especially long-term studies that measure the benefits of a cure many years following treatment, scientists are increasingly getting a handle on the various positive results of kicking hep C out.

Most notably, a sustained virologic response after completing hep C treatment (SVR, considered a cure) reduces the risk of liver disease progression, including the potential march through the levels of fibrosis (liver scaring) to cirrhosis, and also cuts the risk of liver cancer. In fact, your liver damage may reverse somewhat after a cure. Above all, an SVR means a reduced risk of dying—at least in the short term, since studies measuring this effect generally don't follow individuals for longer than five years after hep C treatment.

Curing hep C also lowers the risk of conditions like diabetes and heart disease. Furthermore, overall quality of life is likely to improve after successful treatment.

General health, at least on average, "will improve after disappearance of the virus with HCV treatment and the fatigue will usually decrease rapidly," says Dominique Salmon, MD, PhD, a professor of infectious diseases at Université Paris Descartes in France. "[On average,] the liver will also improve progressively and is going to become less hard, less fibrous with time. Even if the patient is cirrhotic, an improvement will appear."

Hep C treatment has undergone a major revolution. Today's drugs require less treatment time, are much more likely to lead to a cure, and are far more tolerable than the standard therapy of even a couple of years ago. When opting for the current blockbuster treatment regimen, Gilead Sciences' Harvoni (ledipasvir/sofosbuvir), many people with hep C can treat the virus in just eight or 12 weeks and have about a 95 percent promise of success. Plus the once-a-day tablet has relatively minimal side effects.

Thanks to all these upsides of the current treatment options (other available therapies offer similar benefits), weighing the potential risks of treatment with the apparent benefits of a cure isn't the agonizing choice it was when the injectable drug interferon, which causes flu-like side effects, was

a necessary factor in hep C treatment.

“We don’t think we can do much wrong with these drugs at the moment,” says Adiraan van der Meer, MD, PhD, a resident in gastroenterology and hepatology at the Erasmus MC University Medical Center in Rotterdam, the Netherlands. “I believe that the small risk of side effects will not be too severe to overshadow the benefits [of treatment].”

However, van der Meer does add a caveat: More long-term data is still needed to better assess any potential risks, perhaps occurring further down the road, that may result from taking the current crop of hep C drugs. That sort of information should start to arrive in a few years.

Publishing their findings in BMC Infectious Diseases, researchers from Switzerland and Belgium recently conducted a systematic literature review of 34 studies, including five meta-analyses, published between 2002 and 2013 that identified the apparent benefits of a cure. They found that, during the five years after treatment, successful hep C therapy frequently led to some reversal of liver scarring. Additionally, a cure slashed the risk of hepatocellular carcinoma (HCC, the most common form of liver cancer) by 75 percent to 90 percent, when compared with a failed treatment or not getting treated in the first place. Post-cure, the risk of liver-related death also dropped by 80 to 97 percent, while the overall risk of death fell 70 to 90 percent.

These figures are general, and do not take account the level of liver disease individuals had at the time of treatment. So it’s important to parse those risk reduction percentages according to how much specific individuals stand to gain from starting hep C treatment depending on their level of liver damage. And when doing so, we need to consider that studies generally don’t look at such benefits past about five years after a cure. So while curing hep C when someone has no or limited fibrosis may ultimately prevent numerous health problems decades down the line, today scientists really only have a good sense of what the shorter-term benefits are likely to be.

That said, because the health risks of continuing to live with hep C are higher when someone has more advanced liver disease, getting treated at that stage offers a greater reduction in the risk of various negative outcomes, at least in the next few years, when compared with treating hep C early on the course of liver disease.

“The value of an SVR depends quite a lot on your initial fibrosis stage” when you are treated, says Hamish Innes, MSc, an research fellow at Glasgow Caledonian University in Scotland. “An SVR is of far more value to the individual with moderate to severe fibrosis than the individual with mild fibrosis.”

To put this into greater specifics, a 2004 study estimated that, compared with the outcomes (a cure or treatment failure) of treating hep C when someone has minimal or no fibrosis, undergoing treatment with moderate fibrosis was associated with 1.76-fold increased risk of liver cancer following a cure and a 2.86-fold increased risk of such cancer after failed treatment. Based on the same comparison curing or failing to cure someone with little or no fibrosis, those two respective figures were a 3.1-fold and 6.2-fold increase in risk when treating the virus with advanced fibrosis,

and 4.8-fold and 12.2-fold increase in risk when treating with cirrhosis. The increasing gap between these figures means that as liver damage increases, the difference in the risk of liver cancer after hep C successful versus unsuccessful treatment grows starker. In other words, the greater the liver damage, the higher the relatively short-term stakes when it comes to treating the virus.

Similarly, those 50 years of age or older likely stand to benefit more from a cure than those who are younger, at least in the short term.

The BMC Infectious Diseases literature review's authors also found that, five years after successful treatment, the medical costs for people after being cured of hep C are an average of 13 times lower than the bills for those who fail treatment.

Four studies identified in the paper have found that an SVR, when compared with a failed cure, about cuts in half an individual's risk of developing diabetes.

Additionally, more than a dozen studies factored into the literature review looked at how curing hep C improves health-related quality of life. The findings were almost universal that achieving an SVR improved quality-of-life measures on both the physical and mental fronts. Those who do not achieve an SVR after treatment, compared with those who are cured, have been found to be significantly compromised in their ability to engage in work-related duties as well as leisure activities. One study showed that 56 percent of those cured of hep C were employed, compared with 41 percent of those who had not been cured. Another study found these respective figures were 67 percent and 51 percent.

Research has also found that achieving an SVR about halves the risk of hospitalization resulting from acute alcohol intoxication, and leads to a similar reduction in the risk of injuries resulting from violence. In an essay in the journal Hepatology, van der Meer theorizes that these benefits may point to individuals making positive changes in their lifestyle after being cured.
