Insulin Resistance Lowers Odds of Hep C Treatment Success

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People coinfected with both HIV and hepatitis C virus (HCV) are much less likely to respond to HCV treatment if they also have insulin resistance, according to a study published online June 25 in the Journal of Acquired Immune Deficiency Syndromes.

There are a number of factors that determine whether someone will respond successfully to HCV treatment—with success defined as maintaining undetectable HCV levels in the blood for at least six months following the conclusion of a course of HCV treatment—also known as a sustained virological response (SVR).

Some factors that reduce the likelihood of achieving an SVR, such as having certain strains of HCV, or being coinfected with both HIV and HCV, are not controllable. Other factors, such as low CD4 counts or insulin resistance, can potentially be treated. Insulin resistance occurs when the body makes insulin to break down blood sugar but doesn't use the insulin efficiently. Over time it takes more and more insulin to keep blood sugar levels in balance, and a person can develop diabetes.

Several recent studies in people infected with only HCV have suggested that insulin resistance can lower the odds of responding well to HCV treatment. There have been no studies until now, however, to determine what impact insulin resistance might have on HCV treatment in people coinfected with both HIV and HCV.

To answer this question, Pablo Ryan, MD, from the Hospital Gregorio Marañón in Madrid, and his colleagues reviewed the medical records of 134 coinfected individuals who received standard HCV treatment (pegylated interferon plus ribavirin) between July 2000 and March 2007. The majority of the study participants, 67 percent, had HCV genotypes 1 or 4, which are most common in the United States and the most difficult to treat. Thirty-one percent had insulin resistance. Roughly 85 percent were on antiretroviral (ARV) HIV treatment.

Ryan and his colleagues found that people with insulin resistance did indeed respond less well to HCV treatment than those without insulin resistance. Overall, 67 percent of the participants achieved an SVR, provided that they had no insulin resistance. Meanwhile, only 25 percent of those with a high degree of insulin resistance achieved an SVR. In people with HCV genotypes 1 or 4, success rates ranged from a high of 43 percent in those with little to no insulin resistance to as low as 21 percent in people with a high degree of insulin resistance.

After accounting for a number of risk factors, those least likely to achieve an SVR were those with HCV genotypes 1 or 4, those with insulin resistance, and those who'd once had a very low CD4 count. Fortunately, many people can use ARV therapy to avoid the loss of CD4 cells, and insulin resistance can be improved in many with a proper diet, exercise and weight loss.

The authors conclude that health care providers should look for insulin resistance in their coinfected patients who are considering starting HCV treatment.

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