Hepatitis C Treatment: Are You Taking the Right Amount of Ribavirin?

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Fortunately, new hepatitis C treatments using direct-acting antiviral drugs (DAAs) are often ribavirin-free. However, ribavirin is still being used, and when it is necessary to take it, it is best to take the right dose. Sounds simple, right? Sadly, simple doesn't match reality; presentations at the recent International Workshop on Clinical Pharmacology of HIV and Hepatitis Therapy in Washington, DC found otherwise.

A recent Dutch study led by Dr. Elise Smolders, looked at ribavirin levels in 100 subjects with hepatitis C undergoing with DAA combinations. The subjects had moderate kidney disease (aka renal impairment). The DAAs that subjects were most frequently taking were sofosbuvir/daclatasvir, sofosbuvir/simeprevir, and sofosbuvir.

Here is why this study is so important: Chronic kidney disease (CKD) is more common in the U.S. than hep C is. Approximately 10 percent of the population has CKD; that's more than 20 million people. Aging increases risk of CKD. So does cirrhosis. Additionally, cirrhosis alters the liver's ability to metabolize drugs. If your liver and/or kidneys alter the way drugs are metabolized, then your medication dose may be too high or too low.

What did the study show? Most ribavirin concentrations were above or below the targeted therapeutic range: 29 percent below, 26 percent above, 45 percent on target. An increased dose of ribavirin increases the risk of side effects, such as anemia. We don't have sufficient research to know what the effects are if ribavirin dosing is below target.

The investigators' conclusions: People with an estimated glomerular filtration rate (eGFR) below 50 mL/min, and possibly those with 50 to 70 mL/min would benefit from a lower ribavirin starting dose. The researchers also saw the value in monitoring ribavirin levels during DAA treatment, especially in people with impaired kidney function.

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