Zepatier and the Need for Resistance Testing

February 8, 2016 By Lucinda K. Porter RN

Recently, the FDA approved Zepatier (elbasvir/grazoprevir), the newest hepatitis C treatment manufactured by Merck. Zepatier's prescribing information includes the recommendation that prior to treatment, test people with genotype 1a for the presence of NS5A resistance-associated polymorphisms.

What are NS5A resistance-associated polymorphisms, and what happens if you have them?

NS5A resistance-associated polymorphisms are mutations on the hep C virus that can make you resistant to treatment to drugs that need to target that part of the virus. They are also called resistance-associated variants (RAVs).

Here is a simplified way of thinking about it. Let's say you have a cockroach problem. You try to kill them with bug spray, but some of the roaches are resistant to that spray, so you end up with some live roaches that multiply, making more roaches, and these are hardy little buggers who aren't going to die with the bug spray you have. You need better bug spray.

One of the drugs in Zepatier is elbasvir, which is an NS5A replication complex inhibitor. It might not be as effective in people with GT 1a infection if the virus they have has this mutation. GT1a infection accounts for 46 percent of U.S. HCV cases; up to 6 percent of those tested have the RAV that is associated with reduced Zepatier efficacy.

So, if you want to kill the virus you want the bug spray that will kill even the hardiest bugs. In this case, you can still use Zepatier, but you need to add ribavirin and increase treatment to 16 weeks (rather than 12 weeks for those without the RAVs).

Note: There are other circumstance where ribavirin might be prescribed with Zepatier, such as if you failed treatment before using one of the new HCV protease inhibitors, so check the package insert to see what is recommended for your particular circumstances.

Should I be worried about not being cured if I test positive for NS5A resistance? No. Your chances are excellent of reaching a viroliogical cure with Zepatier if you take the medication as directed. In clinical trials (with small numbers), the SVR rate (cure rate) in patients:

- WITHOUT NS5A resistance before treatment was 98% with 12 weeks, and with 16 weeks it was 100%

- WITH NS5A resistance the SVR rate was 70% (39/56) with 12 weeks, and with 16 weeks it was 100% (6/6).

For more about RAVs, read Alan Franciscus's article, What the Heck are RAVs?

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