In Hepatitis C, Watch Out For Abbott

By ACSH Staff — October 24, 2011

For twenty years, hepatitis C research mostly followed the HIV cocktail approach, where the gene products of the virus are isolated, and their function determined, thus providing the foundation for a rational drug design or screening-based campaign. But finding a useful inhibitor of the hepatitis C virus (HCV)--the causative pathogen of the disease-- ended up being a more difficult challenge than HIV for a two principle reasons: numerous early clinical failures, and a very tricky binding site on the HCV protease enzyme, making design of protease inhibitors (PIs) more challenging than it was for HIV.

The latter problem was solved by Boehringer Ingelheim. Its highly potent protease inhibitor BILN-2061 showed remarkable efficacy in the clinic, but was withdrawn in 2004 due to cardiac toxicity. It was not until 2011, twenty-two years after the discovery of HCV, that Schering Plough's (now Merck) boceprevir and Vertex's telaprevir received FDA approval within one week of each other.

When added to the standard of care (interferon plus ribavirin), both drugs were extremely effective in reducing viral load; they doubled the cure rate and cut the time for the course of treatment in half. And the reduction in treatment time accomplished more than extra convenience for patients: The former standard of care had been very difficult to tolerate, mostly because of interferon; and the side effects were brutal. Discontinuation of therapy was not uncommon.

Thus, even after the introduction of the two PIs, a major goal in HCV research remained that of eliminating interferon. But doing this requires a cocktail approach--done successfully with HIV, but not yet possible in this case since both approved drugs worked by the same mechanism. It was expected that a combination of one of the PIs with another type of inhibitor (polymerase, most likely) -- again in analogy to HIV--would be the solution. However, over more than a decade, multiple failures of polymerase inhibitors delayed the discovery of the holy grail of HCV--an AIDS-like cocktail of oral drugs.

Now it looks like his may be within reach. Abbott just reported that a four-drug cocktail, including a PI, polymerase inhibitor and ribavirin, yielded spectacular results in a 44 patient trial. It showed a previously unheard of 90% cure rate over a twelve-week treatment period--all in the absence of interferon. Abbott estimates that their product could be launched in 2015. Let's hope that they don't run into any surprises between now and then.

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