New Interferon Boosts Efficacy, Reduces Side Effect Risk

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An experimental version of pegylated interferon—Peg-Interferon lambda (IFNλ)—combined with ribavirin (RBV) appears to be more effective with potentially fewer side effects compared with a standard version of pegylated interferon alpha when used to treat hepatitis C virus (HCV), according to study results reported Saturday, April 2, at the 46th annual meeting of the European Association for the Study of the Liver (EASL) in Berlin.

According to the results presented by Stefan Zeuzem, MD, of Johann Wolfgang Goethe University Medical Center in Frankfurt and his colleagues, IFNλ/RBV treatment was associated with higher rates of rapid and early virologic responses—undetectable HCV viral loads by week 4 and 12—with fewer flu-like and muscular symptoms, less pronounced white blood cell decreases, and fewer reductions of treatment doses because of anemia.

IFNλ works differently than standard interferon in that it targets a distinct receptor on cells. And because the receptor is found on fewer cell types than the one targeted by standard interferon, IFNλ is less likely to cause the same widespread side effects common to treatment with standard interferon.

Bristol-Myers Squibb's EMERGE study, reported by Zeuzem in Berlin, has enrolled 526 people living with HCV starting therapy for the first time. It is a two-part clinical trial, with preliminary results from the second part being reported at EASL, comparing four groups of patients receiving either standard pegylated interferon or one of three doses of IFNλ (ranging from 120 to 240 micrograms [mg]), plus RBV.

Patients with HCV genotype 1 and 4, the most difficult-to-treat forms of the virus, were statistically more likely to achieve a complete early virologic response—cEVR, or an undetectable HCV viral load after 12 weeks of treatment—while using IFNλ/RBV compared with standard pegylated interferon plus ribavirin. Whereas those cEVR rate was 38 percent among those receiving standard therapy, it was about 56 percent among those receiving IFNλ/RBV.

The higher viral response rates were seen as early as one month into treatment, with rapid virologic responses—undetectable viral loads after four weeks of treatment—documented in roughly 15 percent of those receiving the two highest doses of IFNλ/RBV compared with 6 percent of those receiving standard interferon/ribavirin.

In patients with HCV genotypes 2 and 3, treatment with all doses of IFNλ achieved cEVR rates similar to standard interferon, with rates ranging from 84 percent to 97 percent.

Rates of side effects commonly associated with interferon treatment were lower with IFNλ than with standard pegylated interferon. For example, whereas flu-like symptoms occurred in nearly 47 percent of patients treated with standard pegylated interferon, they only occurred in 10 to 13 percent of those treated with IFNλ. Muscle soreness and joint pain were more than twice as likely to occur among those receiving standard pegylated interferon.

Neutropenia—a decrease in bacteria-fighting white blood cells—was rare among IFNλ-treated patients, whereas it occurred in more than 15 percent of patients treated with standard pegylated interferon. And anemia—a low hemoglobin count that can lead to fatigue and shortness of breath—occurred in 13 to 21 percent of those treated with IFNλ/RBV, compared with 44 percent of those treated with standard pegylated interferon/RBV.

“There is a significant unmet medical need for more therapies that can benefit more hepatitis C patients. This is especially true for patients with HCV genotypes 1 and 4, who generally have lower response rates to treatment with PEG-Interferon alfa and ribavirin than patients with other genotypes,” Zeuzem said. “[These] study results demonstrate that PEG-Interferon lambda may have the potential to help address this unmet need, and support further studies of this new type of investigational interferon.”

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