

TARGETED THERAPY PROVES PROMISING

PROVE1 and PROVE2 phase II trials report that administration of telaprevir, a new targeted treatment for hepatitis C, to patients infected with HCV genotype 1, increases hepatitis C cure rates while reducing the required duration of treatment, and "...these findings are a really significant advance for patients with HCV infection," explains John McHutchison from the PROVE1 study team.

Individuals who are infected with HCV genotype 1 have a 40% chance of being cured with currently available therapies. The PROVE1 and PROVE2 studies were the first large-scale trials to investigate the efficacy of telaprevir in previously untreated patients with HCV genotype 1 infection. All patients in the PROVE1 study received pegylated interferon α 2a (Peg-IFN) and ribavirin and were randomly allocated to receive either placebo or telaprevir for 12, 24, or 48 weeks. The PROVE2 study included four treatment groups, one of which did not receive ribavirin. 61% of patients with HCV genotype 1 infection who received Peg-IFN plus ribavirin and telaprevir for 24 weeks achieved a sustained virologic response, compared with just 41% of patients who received Peg-IFN plus ribavirin for 48 weeks. As McHutchison explains, "...administration of telaprevir achieved a superior response rate with reduced treatment duration".

Telaprevir, an inhibitor of the HCV protease, was designed on the basis of the crystal structure of HCV by using an approach similar to that used for the design of HIV protease inhibitors. Other similar agents have also demonstrated promising results for the treatment of HCV infection in phase II and III trials. Phase III trials to investigate the efficacy and safety of telaprevir further are currently underway, and the first results from these studies are expected in late 2010.

Susan J. Allison

Original articles McHutchison, J. G. *et al.* Telaprevir with peginterferon and ribavirin for chronic HCV genotype 1 infection. *N. Engl. J. Med.* **360**, 1827-1838 (2009).
Hézode, C. *et al.* Telaprevir and peginterferon with or without ribavirin for chronic HCV infection. *N. Engl. J. Med.* **360**, 1839-1850 (2009).