INAHTA Briefs

Issue 2011/069

Title **Peginterferon Alfa and Ribavirin for Chronic Hepatitis C in Patients Eligible for Shortened Treatment, Re-Treatment or in HCV/HIV Co-Infection: A Systematic Review and Economic Evaluation**

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Reference Volume 15.17. ISSN 1366-5278. www.hta.ac.uk/project/2043.asp

Aim

To assess the clinical and cost effectiveness of peginterferon alfa and ribavirin in treating chronic hepatitis C virus (HCV) in 3 specific patient subgroups affected by recent license changes: those eligible for shortened treatment courses, ie, those with low viral load (LVL) and who attained a rapid virological response (RVR) at 4 weeks of treatment; those eligible for re-treatment following previous nonresponse or relapse; and those co-infected with human immunodeficiency virus (HIV).

Conclusions and results

In total, 2400 references were identified. The review of clinical effectiveness included 6 good-quality RCTs that fulfilled the inclusion criteria, all reporting peginterferon alfa and ribavirin therapy in patients eligible for shortened treatment. No RCTs comparing peginterferon and ribavirin with BSC were identified for the re-treatment or co-infection populations. The results suggest that chronic HCV patients who have LVL at baseline and who achieve an RVR can be treated with shortened courses of therapy (24 weeks for genotype 1, 16 weeks for genotype 2/3) and achieve SVR rates that are comparable to those who receive the standard duration of treatment (ranges 84%–96% vs 83%–100%, respectively). Since patient numbers in the LVL/RVR subgroups were small, and none of the trials was powered for this subgroup analysis, the results should be interpreted with caution. In the one trial reporting virological relapse rates in the subgroup of patients with LVL/RVR, rates were low and not statistically significantly different between those treated for 24 versus 48 weeks (3.6% vs 0%, respectively, difference 3.6%, 95% confidence interval [CI] –7.2% to 6.6%, p = 1.000). A Markov state-transition model estimated the cost effectiveness of treatment strategies for each subgroup of patients with HCV. In the cost-effectiveness analysis of shortened treatment with peginterferon alfa-2a, incremental cost-effectiveness ratios (ICERs) ranged from 35 000 pounds sterling (GBP) to GBP 65 000 for patients with genotype 1, whereas in patients with genotypes 2 and 3 shortened treatment dominated standard treatment. For patients with genotype 1 with LVL/RVR, shortened treatment with peginterferon alfa-2b dominated standard treatment. In patients with genotype 1 and those with genotype non-1 who were re-treated with peginterferon alfa-2a, the ICERs were GBP 9169 and GBP 2294, respectively. In patients with genotypes 1 and 4, who were re-treated with peginterferon alfa-2b, the ICER was GBP 7681, whereas re-treatment dominated BSC for patients with genotypes 2 and 3. In patients co-infected with HCV/HIV, who were receiving peginterferon alfa-2a, the ICER was GBP 7941 per quality-adjusted life-year (QALY) gained in patients with genotypes 1 and 4; whereas in patients with genotypes 2 and 3, peginterferon alfa-2a dominated BSC. In co-infected patients receiving peginterferon alfa-2b the ICER was GBP 11 806 in genotypes 1 and 4, and GBP 2161 in genotypes 2 and 3.

Recommendations

See Executive Summary link www.hta.ac.uk/project/2043.asp.

Methods

See Executive Summary link www.hta.ac.uk/project/2043.asp.

Further research/reviews required:

Further RCT evidence is needed, particularly in people who have not responded to, or relapsed following, treatment.

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