NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Multiple Health Technology Appraisal

Peginterferon alfa and ribavirin for the treatment of chronic hepatitis C in children and young people

Final scope

Appraisal objective

To review the clinical and cost effectiveness of peginterferon alfa in combination with ribavirin within their licensed indications for the treatment chronic hepatitis C in children and young people[1].

Background

Hepatitis C is a disease of the liver caused by infection with the hepatitis C virus (HCV). Generally, the virus is primarily acquired through percutaneous exposure to contaminated blood. In the UK the two major routes of transmission of HCV have been sharing injecting equipment in intravenous drug misuse and transfusion of infected blood or blood products. However, in children the virus is primarily acquired as a result of mother to child transmission at the time of birth.

Estimates from the Health Protection Agency in 2011 indicate that 26 people aged 1 year or less and 21 people between the ages of 1 and 14 years were newly diagnosed with HCV in England in 2010. Estimates for chronic infection in children and young people are not available. A 2006 Scottish Medicine Consortium report on peginterferon alfa-2b estimated an initial population of 110 HCV-infected children with 30 new diagnoses being reported annually. Progression to severe hepatitis or cirrhosis in childhood is rare (<5%) and the mean time to development of cirrhosis in people infected as infants is estimated at 28 years.

In children who are asymptomatic with mild or no liver disease, benefits of treatment need to be weighed against the risk of side effects. Children and young people who are HCV RNA positive with evidence of moderate or severe liver disease are considered for treatment with pegylated interferon and ribavirin. In both adults and young people virus genotype (different strains of HCV identified by virological testing) is a key predictor of the effectiveness of anti-viral treatment. People infected with genotypes 2 and 3 generally respond better to treatment than those with genotypes 1, 4, 5 and 6.

[1] The original remit for this appraisal is to appraise the clinical and cost effectiveness of interferon alfa (pegylated and non-pegylated) and ribavirin in their licensed indications for the treatment and management of chronic hepatitis C.

The technology

Peginterferon alfa-2a (Pegasys, Roche Products) in combination with ribavirin (Copegus, Roche Products) does not currently have a UK marketing authorisation for the treatment of chronic hepatitis C in people under 18 years of age. Peginterferon alfa-2a has been studied as a monotherapy and in combination with ribavirin in clinical trials in treatment-naive children aged 5 to 17 years with chronic hepatitis C.

Peginterferon alfa-2b (ViraferonPeg, Merck Sharp and Dohme) in combination with ribavirin has a UK marketing authorisation for the treatment of chronic hepatitis C in children and young people aged three years and older, not previously treated, who have chronic hepatitis C, without liver decompensation, and who are positive for HCV-RNA. The marketing authorisation does not permit monotherapy in this age group. The recommended duration of treatment is 1 year for children with genotype 1 and 4, and 24 weeks for children with genotype 2 or 3.

Intervention(s)	• Peginterferon alfa-2a in combination with ribavirin • Peginterferon alfa-2b in combination with ribavirin
Population(s)	Children and young people aged 3 to 17 years with chronic hepatitis C. All groups will be considered, including: • People with HIV co-infection • People with all grades of severity of chronic hepatitis C (mild, moderate and severe) • People who are treatment naive or, if appropriate, who have not responded and/or relapsed to previous treatments.
Comparators	• Supportive care, including treatment without any form of interferon therapy • The interventions will be compared with each other within their licensed indications
Outcomes	The outcome measures to be considered include: • virological response to treatment • sustained virological response • biochemical response (e.g. ALT)

	• liver inflammation and fibrosis • mortality • adverse effects of treatment, including effects on growth • health-related quality of life.
Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation, and in this instance with particular emphasis on HCV genotype and treatment duration. Best supportive care varies, and can include treatment in specialised centres/trained nurses and monitoring by blood tests and ultrasound scans for evidence of liver disease.
Related NICE recommendations	Related Technology Appraisals: Technology Appraisal No.200, September 2010, 'Peginterferon alfa and ribavirin for the treatment of chronic hepatitis C - part review of existing guidance No. 75 and 106'. Expected review date July 2013. Technology Appraisal No.75, January 2004, 'Interferon alfa and ribavirin for the treatment of chronic hepatitis C - part review of existing guidance no.14'. Technology Appraisal No. 106, August 2006, 'Peginterferon alfa and ribavirin for the treatment of mild hepatitis C (extension of technology appraisal guidance 75)'. Related Public Health Guidance: Public Health Guidance in Preparation, 'Hepatitis B and C – ways to promote and offer testing' Earliest anticipated date of publication Dec 2012

Appendix B