Challenges and issues in managing hepatitis C

5 key points

1. Many people are unaware of their hepatitis C virus infection due to its asymptomatic nature or non-specific symptoms

2. Diagnosis usually involves testing serum for both anti-HCV antibodies and HCV ribonucleic acid

3. Sharing equipment among injecting drug users is the most common route of infection in industrialised countries

4. This group is under-represented in testing and treatment programmes for HCV, despite being most at risk

5. The primary goal of therapy is to cure the infection and attain a sustained virological response

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**Epidemiology**

Hepatitis C represents a significant global health burden, with more than 170 million people infected worldwide (Lavanchy, 2009) and 250,000-466,000 in the UK (HPA, 2008). In industrialised countries, sharing injecting equipment among current or former injecting drug users is the most common route of infection, to the extent that the prevalence of chronic infection among this group varies between 50% and 95% (HPA, 2009; Sweeting et al, 2009; Shepard et al, 2005).

Other transmission routes include tattooing and body piercing, unprotected sexual contacts with high-risk partners and perinatal infection during pregnancy or childbirth (there is no evidence that breastfeeding is a risk factor).

Before 1991, blood transfusions were a common route of infection (Choo et al, 1989). The development and introduction of blood screening for HCV antibodies soon after the discovery of the virus controlled this transmission route in the
In England and Wales, the National Institute for Health and Clinical Excellence (2006) recommend a combination of peginterferon alfa and ribavirin for treating mild chronic HCV infection (NICE, 2006; Wright et al, 2006). The therapy consists of once-weekly subcutaneously administered peginterferon alfa plus twice-daily oral ribavirin over 24 or 48 weeks (EASL, 2011; NICE, 2006). This combination produces an overall SVR greater than 50%, which is a significant improvement on the SVR rates of 10% achieved with interferon monotherapy in the mid-1990s (Manns et al, 2006).

The likelihood of a response is much higher in people with HCV genotypes 2 or 3 (80% SVR rate after six months of combination therapy with peginterferon alfa and ribavirin) than genotype 1 or 4 (50% SVR rate after 12 months of therapy) (EASL, 2011). While HCV genotype 1 is the most powerful predictor of response, other predictors of SVR include low viral load, minimal hepatic fibrosis, female sex and being aged under 40.

New treatment strategies aim to achieve higher efficacy, shorter treatment, easier administration and client adherence. Two new drugs, telaprevir and boceprevir, have recently been shown to improve rates of SVR in clients infected with HCV genotype 1 when used in combination with peginterferon alfa and ribavirin (Poon et al, 2011; Zeuzem et al, 2011). Up to now, only about 50% of these clients achieved an SVR when treated with peginterferon alfa and ribavirin, in contrast to 70–80% when either of these two protease inhibitors is added (Mitchell and Rafael, 2012).

NICE issued new regulatory approval recommending boceprevir or telaprevir in combination with peginterferon alfa and ribavirin as an option for treating genotype 1 chronic HCV (NICE, 2012a; 2012b). Another benefit of triple therapy is that its duration is likely to be shortened from the current 48 weeks in 50–66% of patients (EASL, 2011; NICE, 2012a; 2012b).

Nursing care
Clients come to the clinic at a minimum of weeks 4 and 12 after starting treatment, then at a minimum of every 12 weeks until the end of treatment to monitor treatment efficacy and side-effects, and 24 weeks after the end of therapy to assess SVR.

Side-effects are common and clients need significant support and
encouragement throughout treatment as they affect quality of life.

Interferons are naturally occurring proteins that play an essential role in the immune system by hindering the virus’s replication process and enhancing the body’s immune response. They are responsible for many of the symptoms associated with flu such as headaches and fever, and they can also reduce serotonin levels, resulting in depression.

Ribavirin causes a fall in haemoglobin, leading to tiredness and shortness of breath. Haematological side-effects may require dose reduction which, in turn, may have implications for the likelihood of attaining an SVR (EASL, 2011).

References


