Hepatitis

Essential information for health professionals

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First identified in 1989, hepatitis C has emerged as a significant public health problem. This document has been produced for health professionals to provide up-to-date information on the hepatitis C virus (HCV).

It includes information on the prevalence of HCV in Northern Ireland, how the virus is transmitted, how to identify those at risk, diagnosis and testing procedures, and treatment. It also signposts further sources of information.

What is hepatitis C?

Hepatitis C is a slowly progressive and often silent disease of the liver caused by HCV, which is a blood-borne virus. The effects of the infection vary from one individual to the next. Many people will remain symptom free, some will develop cirrhosis and a few will develop liver failure or primary liver cancer.

Up to the end of 2005, over 900 people in Northern Ireland have been laboratory-confirmed as having detectable HCV antibody, of whom nearly half were found by PCR testing to be chronic carriers.[1] Statistics from some of those years suggest that nearly two thirds of cases are of people aged between 15 and 44 years. It is thought that significant numbers of other people here are chronically infected but unaware of this. These carriers may be passing the virus on to others. Unlike hepatitis A and B, there is no vaccine against hepatitis C but infection is preventable through strategies that minimise transmission.

What are the signs and symptoms?

Most people who become infected with hepatitis C are unaware of it at the time. Some people may feel briefly unwell, or may have nausea and vomiting and, rarely, jaundice.

Many with chronic hepatitis C will have no symptoms, while others will feel unwell to varying degrees. Most people will remain well and without symptoms for a number of years and this makes the infection difficult to recognise.

Disease progression and severity is very variable and patients may not become symptomatic until their liver disease is advanced.

Symptoms, though not common, may include muscle aches and a high temperature, itchy skin, joint pains, mild to severe fatigue, nausea, loss of appetite, weight loss, depression or anxiety, pain or discomfort in the liver, jaundice, poor memory or concentration, and alcohol intolerance.

It should be noted that the severity of symptoms does not necessarily equate to the extent of liver damage. Some patients will report quite severe symptoms with no clinical signs of liver disease, while cirrhosis can be present without any obvious symptoms.

For those in whom the disease progresses to cirrhosis, serious complications due to liver failure may include oesophageal varices, ascites and hepatocellular carcinoma.

What is the long-term outlook for the patient?

Current evidence suggests that:

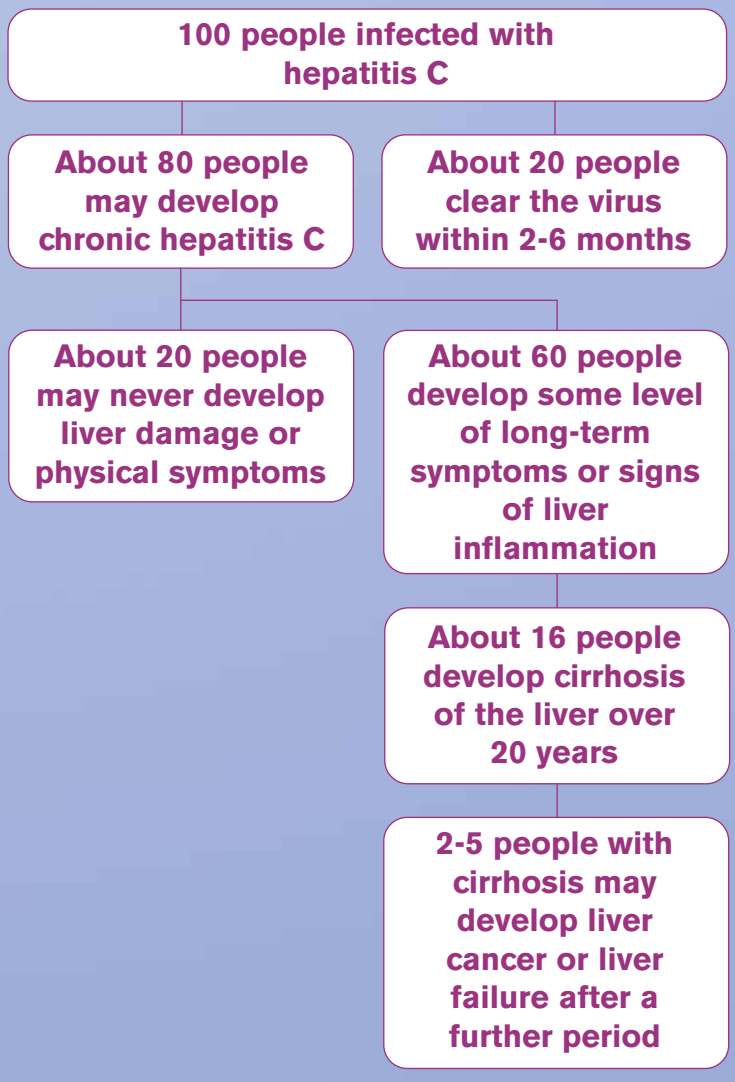
- around 20% of those infected with hepatitis C will clear the virus at the acute stage.

Of the 80% who do not:

- some will remain well and may not develop significant liver damage;
- many will develop only mild to moderate liver damage (with or without symptoms);
- about 10% will progress to cirrhosis of the liver over a period of 10 years, 20% after 20 years;
- of those with cirrhosis, 3% will progress to liver failure each year and up to 4% per year to primary liver cancer.

An example of the possible overall progression of the disease is illustrated below. It should be noted that understanding of the natural history of hepatitis C is incomplete and the figures should be considered as approximations.

Figure 1: Disease progression in hepatitis C infection



Numerous studies have attempted to determine factors which are associated with more rapid progression to cirrhosis. These include:

- alcohol consumption – alcohol is strongly associated with increased likelihood of progression to severe liver complications;[2,3] this is particularly important if alcohol consumption is heavy (greater than 50 units per week);
- age at infection – those who acquire hepatitis C at an older age have a more rapidly progressing disease;[3,4]
- gender – studies indicate that men are more likely to progress to cirrhosis than women;[3,4]
- co-infection with HIV or hepatitis B – those who are also co-infected with either HIV or hepatitis B are likely to progress to serious disease more rapidly;[3,4]
- genotype – it is important to identify the genotype as some have a higher rate of progression to cirrhosis than others. Genotype also has implications for treatment regimens and accurate prognostic information.

How is hepatitis C transmitted?

HCV is carried in the blood, and has been detected in other body fluids. However, blood has been identified as the main vehicle of infection.[5]

- The major route of HCV transmission in the UK is by sharing equipment for injecting drug use, mainly via blood-contaminated needles and syringes. Spoons, water and filters may also be vehicles of infection as may blood contaminated straws etc, used for inhaling cocaine.
- Prior to the introduction of screening of all blood donations in September 1991, there was a risk to recipients of blood. A heat treatment process to protect blood clotting factors (used in the treatment of haemophilia) against hepatitis C and other viruses was introduced in the mid-1980s (treated Factor IX became available in 1985 and Factor VIII in 1987). There is a high prevalence of hepatitis C in people with haemophilia who received untreated clotting factors before these dates.[6]
- Mother to baby transmission does occur, either in utero or at the time of birth, but appears to be uncommon, with upper estimates of 6% across the UK.[4,7] However, this is increased to around 15-20% when there is co-infection with HIV. There is no association proven, as yet, between breastfeeding and transmission of hepatitis C infection, and mothers with this infection should not be advised against breastfeeding.[7]

- Sexual transmission of hepatitis C is possible but uncommon.[8,9] Estimates for sexual transmission of HCV are less than 5% in regular sexual partners.
- Transmission can occur through medical and dental procedures abroad, where infection control may be inadequate.
- Healthcare workers (and to a lesser extent, other workers such as police, prison staff and social workers) may be at risk of hepatitis infection from occupational injuries, eg needlestick injuries. Details of guidance on the investigation and management of occupational exposure to hepatitis C are contained in the 'Further reading' section.
- There is a risk from tattooing, ear piercing, body piercing and acupuncture with unsterile equipment.
- There is some evidence that transmission may occur through the sharing of toothbrushes, razors and other personal toiletry items that could be contaminated with blood.[8]

There is no risk of HCV transmission from everyday social contact such as holding hands, hugging or kissing, or through sharing toilets, crockery or kitchen utensils.

Injecting drug use is the most important risk factor, recorded as the source of infection in 92.3% of laboratory-confirmed infections in England and Wales from 1997 to 2000.[9] In England and Wales, over 40% of injecting drug users are infected, with nearly 60% remaining unaware of their infection.[10] The only report to date from Northern Ireland also showed injecting drug use to be the most important risk factor, accounting for 50% of patients presenting to a regional liver clinic.[11]

How is hepatitis C diagnosed?

An initial antibody blood test will indicate whether a person has ever been infected with HCV. About 15-20% of people who become infected with HCV will clear the virus at the acute stage; however, these people will still have positive antibody results.

In order to establish if the virus is still present, and to diagnose the extent of the disease, further specialist tests are required. A polymerase chain reaction (PCR) test will identify current circulating virus. More sophisticated molecular tests can then identify the amount (viral load) and the genotype of the virus.

Who carries out HCV tests?

Antibody tests may be requested by any doctor including GPs. The presence of chronic infection will need to be confirmed by PCR testing.

Referral to secondary care

Patients who are antibody positive, but PCR negative, must have a second test after 4-6 weeks to confirm the negative status. If confirmed negative, patients do not need specialist treatment but need counselling about lifestyle. They can be managed in primary care or referred to secondary care for counselling.

All patients who are PCR positive should be referred to specialist hepatologists or gastroenterologists with an interest in liver diseases for further investigations/assessments.

In patients who have clinical indications, liver biopsy will show the degree of any liver injury (inflammation, fibrosis, cirrhosis, etc). Additional investigations may be appropriate.

Who should be tested?

Antibody testing should be considered for:

- anyone with unexplained abnormality of liver function tests;
- anyone who has ever injected drugs. It is very important that ex-injecting drug users are offered an HCV test as there is a high probability that many will have been infected for several years and have moderate disease (inflammation and/or fibrosis) of the liver;
- current injecting drug users;
- recipients of blood (before September 1991 in the UK) or blood products (before 1986 in the UK);
- children born to mothers with hepatitis C (Note: the test result may be difficult to interpret in children under 18 months old due to the presence of maternal antibodies, and specialist virological advice will be needed);
- regular sexual partners of those with hepatitis C;
- people who may have had unsterile medical or dental procedures abroad;
- people who may have had ear piercing, body piercing, tattooing or acupuncture with unsterile equipment.

Those at risk of hepatitis C should be considered for testing for hepatitis B and HIV, if this has not been done already. Such testing should be accompanied by appropriate pre- and post-test counselling.

What information do patients need?

Before testing

When antibody testing is undertaken, it is important that the fears and anxieties of patients are discussed. Patients should also be made aware of the implications of both a positive and a negative result so that they are able to give informed consent to the process.

Prior to antibody testing, practitioners should consider the following issues:

- does the patient clearly understand the testing procedure?
- is the patient able to give informed consent?
- does the patient have enough information about the disease to understand the long-term implications of a positive result?
- what support does the patient have, particularly after the receipt of a positive test result?
- is the patient assured of confidentiality?

After testing

Results should be given in person, wherever possible.

Negative results

Where antibody test results are negative, patients should, where appropriate, be counselled that any continued risky behaviour may lead to infection in the future.

Repeat antibody testing is advised if the patient is believed to have been recently exposed to the virus, since HCV antibodies can take up to six months to develop.

Positive results

In the event of a positive antibody test, it is important that the patient clearly understands the result, and that further specialist tests are required to establish current HCV infection and identify the extent of any disease.

The patient may need support to come to terms with a positive test result and potential future implications. Referring practitioners should consider providing such support during the period that patients wait to see a specialist.

If current HCV infection has been diagnosed, patients should be advised:

- to stop drinking alcohol. If they can't, they should at least reduce alcohol consumption to well below the normal recommended maximum daily limits (continued alcohol consumption is the most likely predictor of disease progression). Patients may need to be referred for specialist alcohol support and counselling;
- not to donate blood or carry an organ donor card;
- **never** to share **any** injecting equipment;
- that, although rare, sexual transmission can occur (condoms minimise this risk);
- not to share razors or toothbrushes or any toiletry equipment that could have been contaminated with blood;
- that normal contact with other people at school, work and within the family does not transmit the infection.

What is the treatment for hepatitis C?

In recent years, increasingly effective treatments for chronic hepatitis C have become available. The current treatment is combination therapy with pegylated interferon alpha and ribavirin. This treatment has been endorsed by the National Institute for Health and Clinical Excellence (NICE) for those with moderate to severe chronic hepatitis C as demonstrated by liver biopsy.[12]

Combination therapy with pegylated interferon alpha and ribavirin is successful in clearing the hepatitis C virus (with no detectable virus six months after treatment has ceased) in 55% of those treated.[13, 14] Success rates vary depending on virus genotype: up to 45% of genotype 1 patients clear the virus, rising to 80% success for patients with genotypes 2 and 3.

Treatment generally lasts for 6 to 12 months depending on virus genotype (6 months for genotypes 2 and 3, 12 months for genotypes 1, 4, 5 and 6). The treatment is given as subcutaneous injections of pegylated interferon alpha once weekly and daily oral ribavirin tablets.

There is a number of relative contraindications to combination therapy including pregnancy, abnormal mental state and severe co-morbidities. Ribavirin is teratogenic and recipients must not conceive a child during therapy or for six months after completing therapy. Other common side effects include anaemia, fatigue, flu-like symptoms and mood upset. Up to 10% of patients withdraw from therapy due to the severity of side effects.

In light of the potential complications of combination therapy, all patients who are possible candidates for treatment should be assessed by a specialist with expertise in using combination therapy. All treatment of patients with chronic hepatitis C in Northern Ireland is supervised through the Liver Unit, Royal Victoria Hospital, Belfast.

Further information

Hepatitis C information line

This information line is for anyone with concerns about hepatitis C.

Tel: 0800 451 451
(10am-10pm, 7 days a week)
Textphone: 0800 085 0859

UK Hepatitis C Resource Centre

This resource centre is a specialist service that offers advice and information for people living with hepatitis C, healthcare professionals, members of the public and the media. It maintains a list of local support groups for people with HCV and also coordinates a national forum to represent the needs and views of people with HCV.

195 New Kent Road, London SE1 4AG
Tel: 020 7378 5495
Information line: 0870 242 2467 (10am-4pm, Mon-Fri)
Email: info@hepccentre.org.uk
Website: www.hepccentre.org.uk

Liver Unit, Royal Victoria Hospital (RVH)

This unit is dedicated to the management of patients with liver diseases. It provides highly specialised inpatient and outpatient care including a regional service for management of patients with viral hepatitis from Northern Ireland. Consultant Hepatologists: Dr Michael Callender and Dr Neil McDougall.

274 Grosvenor Road, Belfast BT12 6BA
Tel: 028 9063 3529 / 028 9063 3182
Email: michael.callender@royalhospitals.n-i.nhs.uk
or
neil.mcdougall@royalhospitals.n-i.nhs.uk

RVH Liver Support Group

This is an independent group offering help and support to those with liver disease and their carers throughout Northern Ireland. The group is affiliated to the British Liver Trust. Contact: Gordon Cave.

Tel: 07737 718493
Website: www.rvhliversupportgroup.co.uk

The Haemophilia Society

This organisation provides information and support for people living with, or affected by, haemophilia who are concerned about hepatitis.

First Floor, Petersham House, 57a Hatton Garden, London EC1N 8JG
Tel: 020 7831 1020
Freephone helpline: 0800 018 6068 (10am-4pm, Mon-Fri)
Email: info@haemophilia.org.uk
Website: www.haemophilia.org.uk

Children's Liver Disease Foundation

This organisation specialises in supporting children with liver disease.

36 Great Charles Street, Birmingham B3 3YJ
Tel: 0121 212 3839
Email: info@childliverdisease.org
Website: www.childliverdisease.org

British Liver Trust (BLT)

BLT raises awareness and provides information on all forms of liver disease. The charity produces a number of publications such as the patient leaflets *Hepatitis C* and *Injecting drug use and hepatitis C*. These are available free to patients by sending an SAE to the address below, and for a small charge to primary care and other services. BLT can only respond to written medical enquiries by letter or email. It can also refer patients to support organisations in their areas.

2 Southampton Road, Ringwood BH24 1HY
Tel: 0870 770 8028
Email: info@britishlivertrust.org.uk
Website: www.britishlivertrust.org.uk

Local sexual health/Genito Urinary Medicine (GUM) clinics

These clinics offer free confidential advice. An appointment is necessary in Belfast and Londonderry.

Royal Victoria Hospital, Belfast
Tel: 028 9063 4050 / 028 9063 4054
Causeway Hospital, Coleraine
Tel: 028 7034 6028
Daisy Hill Hospital, Newry
Tel: 028 3083 5050
Altnagelvin Hospital, Londonderry
Tel: 028 7161 1269

National Drugs Helpline

This helpline provides confidential information and advice to drug users and anyone concerned about drugs.

Tel: 0800 77 66 00

Drugs and alcohol website

This website for professionals lists the drug and alcohol treatment services throughout Northern Ireland.

Website: www.drugsalcohol.info

For more information on hepatitis C, or for PDF files of the public leaflet *Hepatitis C – Could I be at risk?* in other languages, visit the DHSSPS website on **www.dhsspsni.gov.uk/phealth**. Additional information is available on the NHS website **www.hepc.nhs.uk**

Further reading

National Institute for Clinical Excellence. Interferon alfa (pegylated and non-pegylated) and ribavirin for the treatment of chronic hepatitis C. London: NICE, 2004. Available at http://www.nice.org.uk/TA075guidance Accessed 16 October 2006

Department of Health. Hepatitis C: guidance for those working with drug users. London: DH, 1999. Available at http://www.hepc.nhs.uk/resources/documents/hepC-guidanceforthoseworkingwithdrugusers.pdf Accessed 16 October 2006

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For further copies of this document, contact the central health promotion resource service in your local Health and Social Services Board area. For additional information, email health.protection@dhsspsni.gov.uk or telephone 028 9052 8385.

The leaflet for the general public *Hepatitis C – Could I be at risk?* is available as PDF files in Arabic, Bengali, Complex Chinese, Irish, Lithuanian and Portuguese from: www.dhsspsni.gov.uk/phealth and www.healthpromotionagency.org.uk

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