TRANSMISSION, SCREENING AND TREATMENT OF HEPATITIS C

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This article describes the risk of hepatitis C being transmitted from a healthcare worker to a patient, pre-employment screening, and health surveillance. It also outlines the latest treatment options and harm minimisation strategies.

TRANSMISSION

There is epidemiological evidence that hepatitis C can be transmitted from healthcare workers to patients, with a small number of instances being reported in the UK (Bagg, 2003). The first of these was in 1994 when a healthcare worker with hepatitis C transmitted the virus to a patient. Since then there have been other incidents reported in the UK, Spain and Germany, and an incident in the US involving a cardiac surgeon (Department of Health, 2002).

Nevertheless, healthcare workers are at greater risk of acquiring bloodborne virus infections from their patients than vice-versa. DH guidelines (2002) stated that ‘any healthcare worker found to be carrying the virus and who is viraemic is not allowed to perform exposure-prone procedures (EPPs)’. These are procedures where there is a risk that injury to the healthcare worker could result in blood entering the patient’s open tissues (DH, 2002).

The government’s look-back programme in 1995 identified a large group of patients with hepatitis C with known dates of acquisition and an identifiable source but, at the time of the exercise, no observable disease progression. Further studies have shown a significant increase in hepatitis C virus-related disease after 10 years of infection in the same patients. This supports the theory that hepatitis C virus infection does not have a great impact on mortality in the first decade of infection (Harris et al., 2002). This study is ongoing with further observation of the cohort and control groups.

ADVANTAGES AND DISADVANTAGES OF BLANKET SCREENING

ADVANTAGES

- If screening takes place the virus can be identified at an asymptomatic stage. This allows patients to be monitored and offered treatment

DISADVANTAGES

- The principle of mass screening requires the clinical course of the disease to be understood. Effective treatments must be available

LEARNING OBJECTIVES

- Be aware of the risk of healthcare workers transmitting hepatitis C to patients and vice versa and guidance on safe practices
- Know about best practice in testing and screening for hepatitis C
- Understand the latest treatments for hepatitis C
- Be aware of harm minimisation strategies that can be used for those groups who are at risk

PRE-EMPLOYMENT SCREENING

Previous guidance for new healthcare workers (DH, 2004) stated that ‘all healthcare workers who are intending to undertake training for a career that relies on the performance of EPPs should be offered a hepatitis C antibody test in the context of their professional responsibilities. If a positive result is obtained it may be necessary that they are restricted from commencing training.’ Those who have responded to antiviral therapy could resume carrying out EPPs or start training (DH, 2002).

Hepatitis C is more prevalent in Asian countries but workers who come to this country from Asia have protection under the Race Relations Act (1976), which prohibits discrimination on the grounds of colour, race, and ethnic or national origins. As such any screening protocols must be instigated on a risk assessment of the clinical activity and not on personal assessments.

In 2004 the DH recommended only screening healthcare workers known to be positive for viral RNA, those embarking on training who will perform EPPs and those who have been occupationally exposed. New guidance (DH, 2007) recommended that all healthcare workers new to the NHS should be offered an antibody test.
Pre-employment screening for healthcare workers benefits individuals through presymptomatic detection of disease and early treatment, and employers are able to look at suitable job placements. Assessments and screening should only be undertaken if the results will benefit the individuals affected or other workers/patients who may avoid infection as a result. One such benefit for healthcare workers already employed by the NHS is that hepatitis C is a prescribed disease and help is available under the NHS injury benefits scheme.

If a healthcare worker has been exposed to risk the incident needs to be reported immediately and the local policy followed. The following recommendations should be adhered to:

- If there is a known infected source, follow up with occupational health department at six, 12 and 24 weeks after exposure;
- If the source is negative, take baseline bloods and follow up if hepatitis C develops;
- If the source is unknown, complete a risk assessment in order to evaluate the possible implications.

**BLANKET SCREENING**

One of the challenges is to decide who to screen, how, when, why and at what cost. Some request a hepatitis C test because they have put themselves at risk, while others may be found positive after donating blood. Routine screening for antibodies to the virus in blood donations was introduced in the UK in 1991. Approximately one in 5,000 first-time donors have been found to have antibodies to hepatitis C. However, most people are diagnosed following investigation of non-specific symptoms.

Hepatitis C antibody testing must only be carried out after a discussion and having received informed consent (DH, 2002). The British Liver Trust’s (2001) recommendations for hepatitis C testing facilitate this process. Studies show advice pre- and post-testing is important to allay anxieties. Anyone who tests positive should be referred for counselling and treatment as soon as possible, as evidence suggests the earlier treatment begins the more effective it is.

Confidentiality must be considered on a ‘need-to-know’ basis. Although the person concerned decides who is informed, this must be fully reviewed because close family members may wish to be tested.

When results are negative repeat testing is advised as it can take from eight weeks to six months for antibodies to develop after exposure (Bagg, 2003). The presence of antibodies against the virus does not prove active infection as some 20% of those who become infected clear the virus at the acute stage. Once someone is chronically infected – when the infection lasts longer than six months (British Liver Trust, 2001) – the virus is almost never cleared without treatment.

**TREATMENT**

The virus is a major cause of liver disease and infection can lead to significant morbidity and mortality. Therapy has been based around interferon, but this has been poorly tolerated (Lamarre et al, 2003). Davis (2001) found relapse occurred in most cases when treatment stopped but there is now the option of NICE-recommended therapy – interferon alpha (pegylated and non-pegylated) combined with ribavirin (NICE, 2004). This is recommended for treating those aged 18 and over with moderate to severe chronic hepatitis C. Further NICE guidance on the use of peginterferon alpha and ribavirin in the treatment of mild chronic disease was published in August 2006.

**HARM-MINIMISATION STRATEGIES**

Harm-minimisation strategies can combat the rise in hepatitis C among injecting drug users. Strategies include encouraging them to smoke rather than inject drugs, good hygiene practices, education, support and needle exchanges. This type of campaign should not be alarmist and should target groups that may need to come forward for testing and/or advice.

**CONCLUSION**

New treatments make the outlook for people with hepatitis C much brighter. Increased screening and harm minimisation strategies allow people to make more informed choices about lifestyle, avoid exacerbating the disease and minimise transmission risk. An article on occupational exposure to hepatitis C is available on the new Infection Control section of nursingtimes.net.

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**REFERENCES**


NICE (2004) Interferon Alpha (pegylated and non-pegylated) and Ribavirin for Treatment of Chronic Hepatitis C. London: NICE.


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