

Treatment of Acute Hepatitis

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At present, hepatitis C is considered the main cause of liver disease in the Western world. Estimates show that 170,000,000 individuals worldwide (3% of world population) have the disease. Although most attention has been given to chronic hepatitis C, an acute form of the disease has also been detected.¹

The main route of transmission of the hepatitis C virus (HCV) was via transfusion with contaminated blood or blood derivatives, but the frequency of infection via this route has decreased since the 1990s, when screening of all donated blood for HCV was introduced. Although the incidence of HCV infection is decreasing, the prevalence of this disease is increasing continuously. This is due mainly to the long interval (sometimes more than 20 years) between detection of the infection and development of symptoms of chronic liver disease. Even though the HCV can be transmitted via several routes, development of the infection depends greatly on reexposure to the virus or percutaneous entry of a large amount of the virus. For this reason, individuals most susceptible to hepatitis C are either addicted to intravenous drugs, have multiple tattoos or body piercings, or are health workers who have been injured with needles or other sharp elements.²

Health workers and exposure to HCV

Because there is no vaccine against HCV, the best way for health workers to avoid contracting hepatitis C is to avoid exposure to blood and potentially infectious body fluids.³ Because chronic infection develops in 80% of those exposed to HCV, some groups¹ consider that early treatment of the infection reduces the probability of development of quasispecies and the risk of developing chronic disease. The following factors should be taken into account to minimize occupational exposure to HCV.³

1. Personnel at risk of contracting HCV are those involved in caring for patients, collection of body fluids, and laboratory work, students of medicine and related occupations, employees of hospitals and health

centers, physicians, surgeons, administrative personnel, and voluntary workers who care for potentially infectious patients.

2. Occupational exposure to HCV may occur via percutaneous lesions (needle punctures or injuries made by a sharp instruments) or contact with mucous, skin wounds, blood, fluids containing blood, nasal mucus, semen, or vaginal secretions. Cerebrospinal fluid, pleural fluid, synovial fluid, amniotic fluid, pericardial fluid, and peritoneal fluid are also considered infectious.
3. Nasal secretion, saliva, grounds, expectorate, sweat, and tears are only considered infectious if they contain blood.
4. Any exposure in a laboratory to concentrated forms of samples containing HCV is considered clinically significant.

It is necessary to report any event that could potentially result in HCV transmission, even if it is not considered important at the time. However, surgical and infirmary personnel have a tendency to underestimate the risks associated with certain types of incidents. In Canada, 39% of incidents involving potential HCV infections are not registered, and in the United States 30% of such incidents are not reported.⁴

Occupational risk of HCV infection

The possibility of developing hepatitis C depends on the quantity of virus that an individual is exposed to.^{2,4} HCV infection rates among surgical personnel exposed to sharp instruments are 0%–7%, but among surgical personnel exposed to sharpening instruments, the infection rate is 10%.⁵ The mean rate of HCV infection of all personnel involved in the health industry is 1.8%–3%.^{3,5}

Needles harboring hematic residues are more frequently involved in transmission of HCV than any other type of medical equipment. HCV is not transmitted via contact with intact skin.

Management of health personnel after exposure to HCV

To date, there are no long-term clinical studies that have proved the usefulness of immunomodulatory agents (interferons), antiviral drugs, or combinations of immu-

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nomodulatory and antiviral drugs after exposure to HCV. Experimental data derived from chimpanzees suggest that administration of immunoglobulin does not prevent the development of HCV infection. It has been concluded that the disease must be determined for interferon to be effective.

Studies of viral kinetics suggest that agents for treatment of the chronic form of the disease are not useful for prophylaxis of acute infection because of their mechanism of action. Interferon acts by blocking the production and release of the virus from infected cells and eradicating the virus from infected cells.

There is no valid reason for initiating prophylaxis after exposure to HCV; however, individuals who have been exposed should be followed up to monitor their seroconversion.⁶ Individuals identified as the sources of potential exposure of health workers to HCV (index cases) should be screened and monitored for HCV and other viruses that are capable of percutaneous transmission (e.g., hepatitis B virus, human immunodeficiency virus).⁷

Other populations at risk of infection with HCV

An Australian study showed that prisoners who share needles for intravenous drug administration have a higher risk of infection with HCV than with hepatitis B virus or HIV.⁸ People who share spring-loaded finger-stick devices for self monitoring of capillary blood glucose levels are also at risk of exposure to HCV, even if they do not share needles.⁹ Estimates of the frequency of sexual transmission of HCV vary between 0% and 30%. A study by the University of Naples suggests that administration of human polyvalent immunoglobulin prevents sexual transmission of HCV.¹⁰

Postexposure management of hepatitis C patients³

Each institution should establish policies and protocols to be followed after exposure of personnel to HCV and familiarize all personnel with the procedures.

The policies should include:

1. types of tests to be conducted on the index case,
2. types of tests to be conducted on the exposed individual at baseline and at weeks 4–6, month 3, and month 6 thereafter, and
3. provision for confirmation of a positive HCV ELISA by RIBA.

Management of acute hepatitis C

As there is no evidence that prophylactic treatment is indicated after exposure to HCV,^{3,4} several groups have standardized protocols for the treatment of acute infections. Because 80% of patients with hepatitis C develop

the chronic form of the disease, effective treatment of the acute form represents an opportunity for preventing unfavorable progression of the disease. There is evidence that acute hepatitis C is sensitive to treatment.⁶ In Germany, Jaeckel et al. achieved a 98% sustained viral response (SVR) to interferon monotherapy in 44 patients with acute hepatitis C.¹² On the other hand, the French group of Trépo et al. evaluated 13 patients who received various doses of interferon α -2b (3 to 5 million IU once a day and three times per week thereafter) with or without ribavirin.¹ Only one patient developed chronicity, but the dose, regime, and duration of treatment were not standardized, and the preventative effect of the treatments on the evolution of hepatitis C to the chronic form only became evident after at least 6 months of treatment.

Irrespective of whether acute hepatitis C is treated with interferon monotherapy or a combination of interferon and ribavirin, therapy must be initiated between 4 and 8 weeks after symptoms of acute infection appear. If therapy is initiated at an early stage, an SVR of 87% to 100% may be expected, but if treatment is delayed, an SVR of up to 53% may be anticipated.¹¹ A Spanish study reported that treatment of an acute hepatitis C patient with pegylated interferon and ribavirin resulted in SVR 24 weeks after conclusion of the treatment.¹³

Comments

There is no consensus on the best treatment for acute hepatitis C. As pegylated interferons are the gold standards for therapy of chronic diseases, it is suggested that they be administered for 12 to 24 weeks for treatment of acute hepatitis C. This will contribute significantly to reducing the side effects of treatment as suggested in previous reports.^{6,11,12}

Recommendations of the consensus panel

1. What are the criteria for diagnosis of acute hepatitis C? The following criteria were established by the panel.

- the presence of a risk factor
- an elevated aminotransferase level
- the presence of HCV RNA
- seroconversion

The quality of evidence for this recommendation was given a rating of 2

What is the best time to treat acute HCV infection?

Treatment should be initiated 12 weeks after of symptoms of acute hepatitis C become evident. Consensus was not reached on the best treatment for acute HCV infection, but most of the panel members preferred combined therapy (pegylated interferon + ribavirin) to interferon monotherapy (pegylated interferon). Studies published to date indicate that treatment should be continued for 24 weeks

**The quality of evidence for this recommendation
was given a rating of 2**

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