Hepatitis C

Summary

Hepatitis C is a contagious liver disease that ranges in severity from a mild illness lasting a few weeks to a serious, lifelong illness that attacks the liver.

Hepatitis C virus (HCV) causes both acute and chronic infection. Acute HCV infection is usually asymptomatic and is only very rarely (if ever) associated with life-threatening disease. About 15–45% of infected persons spontaneously clear the virus within 6 months of infection without any treatment.

The remaining 55–85% of persons will develop chronic HCV infection. Of those with chronic HCV infection, the risk of cirrhosis of the liver is between 15–30% within 20 years.

Agent

Hepatitis C virus (HCV) is an enveloped, single-stranded RNA virus which appears to be distantly related to Flaviviruses.

At least six distinct HCV genotypes (genotypes 1–6) and more than 50 subtypes have been identified. Genotype 1 is the most common HCV genotype in the United States,

Transmission

Reservoir:

Humans. Virus has been transmitted experimentally to chimpanzees.

Modes of transmission:

- Injection drug use (most common means of HCV transmission)
- Receipt of donated blood, blood products, and organs
- Needle stick injuries in health care settings
- Birth to an HCV-infected mother

Less commonly, a person can also get Hepatitis C virus infection through:

- Sharing personal care items, such as razors or toothbrushes
- Having sexual contact with a person infected with HCV

Period of communicability:

From one or more weeks before onset of the first symptoms; may persist in most persons indefinitely. Peaks in virus concentration appear to correlate with peaks in ALT activity.

Clinical Disease

Incubation period:

Average 6–7 weeks; range 2 weeks to 6 months.

Illness:

Onset is usually insidious, with anorexia, vague abdominal discomfort, nausea and vomiting; progresses to jaundice less frequently than hepatitis B. Initial infection may be asymptomatic (more than 90% of cases) or mild. About 50% - 80% develop chronic

infection out of which 60% - 70% develop chronic liver disease and 1% - 5% develop liver cancer.

Diagnosis

Clinical criteria:

An illness with discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain);

and

(a) jaundice, or

(b) a peak elevated serum alanine aminotransferase (ALT) level >200 IU/L during the period of acute illness.

Treatment

For acute infection, no medication is available; treatment is supportive.

There are several antiviral medications for treating persons with chronic infection. For example, ledipasvir, sofosbuvir, simeprevir, paritaprevir, ritonavir and ombitasvir. Regimens for treatment and response to treatment depend upon the genotype with which the person is infected and complications of the disease. Persons with chronic HBV infection require linkage to care with regular monitoring to prevent liver damage and/or hepatocellular carcinoma. The complete guidance, which is updated regularly, is available at www.hcvguidelines.org.

Surveillance

Laboratory criteria:

Confirmed –

Nucleic acid test (NAT) for HCV RNA positive (including qualitative, quantitative or genotype testing)

A positive test indicating presence of hepatitis C viral antigen(s) (HCV antigen) when and if a test for HCV antigen(s) is approved by FDA and available. *Probable* –

A positive test for antibodies to hepatitis C virus (anti-HCV).

Case Definition:

Confirmed –

- A case that meets clinical criteria and has a positive hepatitis C virus detection test (HCV NAT or HCV antigen), OR
- A documented negative HCV antibody, HCV antigen or NAT laboratory test results followed within 12 months by a positive result of any of these tests.

Probable –

- A case that meets clinical criteria and has a positive anti-HCV antibody test, but has no reports of a positive HCV NAT or positive HCV antigen tests, AND
- Does not have test conversion within 12 months or has no report of test conversion.

Reporting:

Report all suspected or confirmed cases of Hepatitis C within 24 hours to the Epidemiology and Response Division (ERD) at 505-827-0006. Information needed includes: patient's name, age, sex, race, ethnicity, home address, home phone number, occupation, and health care provider. ERD will collect clinical and laboratory information, assist in the shipment of antitoxin for treatment, and arrange for specimen testing at CDC. Information should also be entered into NM-EDSS per established procedures.

Case Investigation:

1) Create a contact listing and follow-up with the listed contacts.

2) Provide education on avoiding further exposures and to ensure proper medical care is obtained and precautions taken if symptoms develop.

3) Children born to HCV positive mothers should be tested, as follows:

- HCV RNA at 1-2 months of age or
- Anti-HCV at 18 months of age.

4) For additional guidance on persons for whom HCV testing is recommended, refer to the CDC's Recommendations for Prevention and Control of HCV Infection and HCV-Related Chronic Disease (MMWR 1998;47(RR-19): [pp. 20-30])

5) Report the final disposition of each contact investigated.

Control Measures

1. Case management

   1.1. Isolation: None.

   1.2. Prophylaxis: Not applicable.

2. Contact management

   2.1. No prophylaxis available for contacts; refer at-risk contacts for medical evaluation and follow-up.

3. Prevention:

   3.1. Vaccination: Currently, no effective HCV vaccine or post-exposure prophylaxis is available.

   3.2. Primary prevention includes activities to reduce the risk of contracting the infection. See HCV Fact Sheet.

   3.3. Secondary prevention includes, activities to reduce the risk of liver disease and other HCV-related chronic diseases among HCV-infected persons.

   3.3.a HAV vaccination

   3.3.b HBV vaccination

4. Outbreak

   1. Outbreak Definition: The occurrence of ≥ 2 cases of hepatitis C in association with a common exposure is considered an outbreak.

      a. Notify Epidemiology and Response Division (ERD) immediately at 505-827-0006.

   Further guidance on investigating outbreaks including hepatitis B cases that are suspected to be related to healthcare delivery can be found at: www.cdc.gov/hepatitis/Outbreaks/index.htm.

References

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Heymann, D., ed., Control of Communicable Diseases Manual, 19th edition. Washington, DC, American Public Health Association, 2008.

See Hepatitis C Fact Sheets (English) (Spanish).