HEPATITIS E

Also known as: Viral hepatitis E, Enteric non-A non –B hepatitis, "A-like" non-A non-B hepatitis

Responsibilities:
Hospital: Report by IDSS, facsimile, mail, or phone
Lab: Report by IDSS, facsimile, mail, or phone
Physician: Report by facsimile, mail, or phone
Local Public Health Agency (LPHA): Follow-up required

Iowa Department of Public Health
Disease Reporting Hotline: (800) 362-2736
Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Agent

Hepatitis E virus (HEV) is a spherical, nonenveloped, single-stranded RNA virus. It is classified in the Heperviridae family.

B. Clinical Description

Symptoms: Signs and symptoms resemble hepatitis A. These symptoms include fever, malaise, anorexia, nausea and abdominal pain followed by jaundice. The severity can range from a mild illness lasting 1 - 2 weeks to severe disease lasting several months. It has a relatively low case-fatality rate (≤4%), which increases with age. Unlike hepatitis A, the fatality rate in pregnant women can be 10-30%, particularly those in their third trimester.

Onset is usually sudden.

Complications of hepatitis E are uncommon. There is no evidence of a chronic form.

C. Reservoirs

Humans are the only known reservoir, however, domestic animals, including pigs, may be a reservoir.

D. Modes of Transmission

Hepatitis E is usually spread through the fecal-oral route. Contaminated water is the most commonly documented route. Fecal-oral transmission probably also occurs person to person. Recent studies show that hepatitis E may be a zoonotic infection.

E. Incubation period

The range is 15 - 64 days; mean incubation period has ranged from 26 - 42 days in recent outbreaks.

F. Period of Communicability or Infectious Period

This period is unknown. HEV has been detected in stool 14 days after onset of jaundice, and 4 weeks after ingestion of contaminated food or water, persisting for 2 weeks.

G. Epidemiology

Outbreaks and sporadic cases have occurred over a wide geographic area, primarily in countries with poor sanitation. Highest rates of disease occur in young to middle-aged adults; younger age groups

may have disease without jaundice or be asymptomatic. Hepatitis E is believed to be uncommon in the United States. When HEV infection does occur, it is usually the result of travel to a developing country where Hepatitis E is endemic.

H. Bioterrorism Potential

None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting

- To identify sources and sites of transmission and to prevent spread from those sources.

B. Laboratory and Healthcare Provider Reporting Requirements

Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the healthcare provider must report. The preferred method of reporting is by utilizing the Iowa Disease Surveillance System (IDSS). However, if IDSS is not available, the reporting number for IDPH Center for Acute Disease Epidemiology (CADE) is (800) 362-2736; fax number (515), 281-5698, mailing address:

IDPH, CADE
Lucas State Office Building, 5th Floor
321 E. 12th St.
Des Moines, IA 50319-0075

Laboratory Testing Services Available

The University of Iowa State Hygienic Laboratory (SHL) can refer serum specimens for Hepatitis E virus testing. Accurate information about date of collection, date of onset of symptoms, travel history, vaccination and disease history are essential for test interpretation. For additional information on submitting samples or testing, contact the State Hygienic Laboratory at (319) 335-4500.

C. Local Public Health Agency Follow-up Responsibilities

Case Investigation

1. Verify the diagnosis.
    a. Diagnosis of hepatitis E requires clinical illness similar to viral hepatitis A (elevated liver enzymes and or jaundice or dark urine plus at least 2 other symptoms including nausea, vomiting, fever, diarrhea, or malaise with abrupt onset).

    AND

    b. A history of travel out of the country to an underdeveloped country or a country known to have endemic or epidemic hepatitis E.

    AND

    c. The patient is not known or suspected of having risk factors for hepatitis B or C.

    AND

    d. The hepatitis lab profile is negative for anti HAV-IgM, negative for HBsAg and if performed, negative for anti-HCV.
2. For all cases of hepatitis E, complete the Hepatitis E Case Investigation form in IDSS.
3. If several attempts have been made to obtain case information, but have been unsuccessful (e.g., the case or healthcare provider does not return calls or respond to a letter, or the case refuses to divulge information or is too ill to be interviewed), please fill out the form with as much information as possible. Select the appropriate reason under the Event tab in the Event Exception field.

4. Complete the IDSS case investigation form. If IDSS is unavailable after completing the form, place the form in an envelope marked "Confidential" to the Center for Acute Disease Epidemiology. The mailing address is:
   IDPH, CADE
   Lucas State Office Building, 5th Floor
   321 E. 12th Street
   Des Moines, IA 50319-0075
5. Make appropriate recommendations for preventing the spread of illness. See below.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

Same as hepatitis A. Enteric precautions should be used until 2 weeks following onset of jaundice.

B. Protection of Contacts of a Case

Immune globulin is not effective for protecting household or close contacts. Persons with hepatitis E should not prepare foods for others for 14 days after onset of jaundice.

C. Managing Special Situations

If the case is a food handler, child care or healthcare provider, or has potentially exposed a group of individuals in a setting where good hygiene might be questionable, such as on a camping trip, contact CADE (800) 362-2736 immediately for advice.

D. Preventive Measures

The best way to prevent hepatitis E is to prevent exposure to contaminated water or other sources of fecal contamination when traveling to endemic areas. The use of immune globulin prepared from donors from the United States or Europe is not likely to provide protection from infection

4) ADDITIONAL INFORMATION

The Council of State and Territorial Epidemiologists (CSTE) surveillance case definitions for Hepatitis E can be found at: www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top

CSTE case definitions should not affect the investigation or reporting of a case that fulfills the criteria in this chapter. (CSTE case definitions are used by the state health department and the CDC to maintain uniform standards for national reporting.)

References

American Academy of Pediatrics. *2006 Red Book: Report of the Committee on Infectious Diseases, 27th Edition*. Illinois, American Academy of Pediatrics, 2006.
CDC Website: www.cdc.gov/hepatitis/ChooseE.htm
Heymann, D.L., ed. *Control of Communicable Diseases Manual, 20th Edition.* Washington, DC, American Public Health Association, 2015.

Additional Resources

www.cdc.gov/ncidod/diseases/hepatitis/