

Committee: Infectious Diseases

Title: Acute Hepatitis C

Statement of the Problem:

Health departments receive many thousands of positive laboratory reports of antibody to hepatitis C virus (anti-HCV) every year. The majority of these laboratory reports represent persons who are chronically infected with HCV. However, additional clinical and laboratory data are needed to differentiate chronic from acute infection and many health departments do not have sufficient resources to gather these data.

This revision of the case definition requires only a single hepatitis C confirmatory test for laboratory confirmation and specifies a liver enzyme level threshold that is easier to collect and interpret, reducing the amount of laboratory data needed by the health department to differentiate acute hepatitis C from chronic HCV infection.

Statement of the desired action(s) to be taken:

CSTE recommendation of the approval of this revised case definition for acute hepatitis C infection.

Goals of Surveillance

1. Detect outbreaks
2. Monitor trends in incidence and risk factors for infection

Methods of Surveillance

Surveillance is conducted using both clinician and laboratory reporting. Core data elements collected by state health departments are reported weekly to the Centers for Disease Control and Prevention through the National Electronic Telecommunications Surveillance System (NETSS) or in the future National Electronic Disease Surveillance System (NEDSS).

Case Definition

Clinical description

An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g. anorexia, abdominal discomfort, nausea, vomiting), and a)jaundice, or b) serum aminotransferase levels >400 IU/L

Laboratory criteria

One or more of the following:

Anti-HCV screening test positive verified by an additional more specific assay (e.g. RIBA for anti-HCV or nucleic acid testing [NAT] for hepatitis C virus [HCV] RNA)

OR

Anti-HCV screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay (e.g., ≥ 3.8 for the enzyme immunoassays)

OR

HCV RIBA positive

OR

NAT for HCV RNA positive

AND

IgM antibody to hepatitis A virus (IgM anti-HAV) negative
AND
IgM antibody to hepatitis B core antigen (IgM anti-HBc) negative,

Case classification

Confirmed: a case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis C.

Comment

None

Period of Surveillance

Permanent, with review of reporting needs periodically but at least every five years.

Background and Justification

Surveillance for acute hepatitis C is needed to detect outbreaks and to monitor trends in incidence and patterns in the risk factors for transmission. However, conducting nationwide surveillance for acute hepatitis C has been difficult. There are an estimated 3.9 million persons in the United States who have been infected with HCV, the majority of whom have chronic HCV infection. With more widespread use of anti-HCV testing, increasingly larger numbers of anti-HCV positive persons are being reported to state and local health departments. Because there is no serologic marker for acute hepatitis C, additional investigation is required to determine if these reports represent acute infection, chronic infection, or a false-positive result. However, many health departments do not have the resources to routinely follow-up anti-HCV positive lab reports or to conduct these investigations.

To better reflect current testing practices, the case definition for acute hepatitis C has been modified to accept NAT results or any positive HCV confirmatory test result as laboratory confirmation of HCV infection, instead of requiring both an HCV screening test and a confirmatory test. In order to more efficiently distinguish acute hepatitis C from chronic HCV infection, the case definition has also been modified to require an ALT > 400 IU/L for those cases without jaundice, in place of the current case definition which requires ALT > 7 times the upper limit of normal. The upper limit of normal for ALT generally ranges from 35-50 IU/L but varies by laboratory. Thus determining if a particular ALT result is 7 times the upper limit of normal requires further investigation to determine the normative range used. A review of the ALT levels of persons with acute or chronic hepatitis C found that although 90% of acute hepatitis C cases had ALT levels > 400 IU/L, only 1% of chronically infected persons had ALT levels that high. Compared to using ALT to > 7 times the upper limit of normal, ALT > 400 IU/L improved specificity, did not substantially reduce sensitivity and reduced the number of laboratory reports requiring follow-up by 50%. In some locales, ALTs are automatically reported in reflex to any positive hepatitis serology making it even easier to prioritize investigations for potential acute cases by laboratory criteria alone.

This modification of the case definition will facilitate laboratory-based surveillance for hepatitis C by providing health departments with a more specific criterion to determine which reports require further investigation to distinguish anti-HCV positive individuals with acute disease from those with remote or chronic infection. Efficiencies provided by this change in case definition could also help health departments balance resources needed to provide follow-up to persons chronically infected with HCV.

References:

Division of Viral Hepatitis. Guidelines for Viral Hepatitis Surveillance and Case Management. Centers for Disease Control and Prevention. January 2005.

Coordination:

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