Committee: Infectious Disease

Title: Public Health Reporting and National Notification for Acute Hepatitis B Infections

I. Statement of the Problem:
The acute hepatitis B case definition is in need of revision to improve the specificity of the case definition in order to better distinguish between acute and chronic hepatitis B infection.

II. Statement of the desired action(s) to be taken:
CSTE requests that CDC adopt this revised reporting definition for acute HBV.

III. Public Health Impact:

Background and Justification

In 2008, 4,033 cases of acute hepatitis B (HBV) in the United States were reported to CDC; the overall incidence of reported acute hepatitis B was 1.3 per 100,000 population, the lowest ever recorded. However, because many HBV infections are either asymptomatic or never reported, the actual number of new infections is estimated to be approximately tenfold higher. In 2008, an estimated 38,000 persons in the United States were newly infected with HBV. Rates are highest among adults; particularly males aged 25–44 years. The rate of new HBV infections has declined by 85% since 1990, when a national strategy to eliminate HBV infection was implemented in the United States. The decline has been greatest among children born since 1991, when routine vaccination of children was first recommended. Ongoing surveillance for acute HBV is needed to monitor and evaluate the effectiveness of current strategies for the control of disease and to identify exposed persons who will benefit from post-exposure prophylaxis.

IV. Goals of Surveillance

To provide information on the temporal, geographic, and demographic occurrence of acute HBV to facilitate its prevention and control.

V. Methods for Surveillance:

Surveillance for acute hepatitis B should use the sources of data and the extent of coverage listed in Table V.

Table V. Recommended sources of data and extent of coverage for ascertaining cases of acute hepatitis B.

<table>
<thead>
<tr>
<th>Source of data for case ascertainment</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinician reporting</td>
<td>X</td>
</tr>
</tbody>
</table>
VI. Criteria for case identification

A. Narrative description of criteria for case ascertainment of a specific condition.

Report any illness to public health authorities that meets any of the following criteria:

Clinical evidence: A person who is acutely ill with jaundice. Associated symptoms might include: fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, or abdominal pain.

AND/OR

Laboratory evidence:

- A person who has tested positive for IgM antibody to hepatitis B core antigen (IgM anti-HBc positive), or
- A person who has tested positive for hepatitis B surface antigen (HBsAg positive), or
- A person with elevated serum aminotransferase (ALT or AST)\(^1\) who has tested positive for IgM antibody to hepatitis B core antigen (IgM anti-HBc positive) or for hepatitis B surface antigen (HBsAg positive).

Clinical data: A person whose healthcare record contains a diagnosis of acute hepatitis B.

Administrative data: A person whose death certificate lists acute hepatitis B as a cause of death or a significant condition contributing to death.

Other recommended reporting procedures

- All cases of acute Hepatitis B should be reported.
- Reporting should be ongoing and routine.
- Frequency of reporting should follow the state health department’s routine schedule.

\(^1\) ALT: alanine aminotransferase, AST: aspartate aminotransferase
B. Table of criteria to determine whether a case should be reported to public health authorities:

Table VI-B. Table of criteria to determine whether a case should be reported to public health authorities. Requirements for reporting are established under State and Territorial laws and/or regulations and may differ from jurisdiction to jurisdiction. These criteria are suggested as a standard approach to identifying cases of this condition for purposes of reporting, but reporting should follow State and Territorial law/regulation if any conflicts occur between these criteria and those laws/regulations.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Evidence</strong></td>
<td></td>
</tr>
<tr>
<td>Jaundice</td>
<td>N</td>
</tr>
<tr>
<td>Acute onset</td>
<td>N</td>
</tr>
<tr>
<td>Fever</td>
<td>O</td>
</tr>
<tr>
<td>Headache</td>
<td>O</td>
</tr>
<tr>
<td>Malaise</td>
<td>O</td>
</tr>
<tr>
<td>Anorexia</td>
<td>O</td>
</tr>
<tr>
<td>Nausea</td>
<td>O</td>
</tr>
<tr>
<td>Vomiting</td>
<td>O</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>O</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>O</td>
</tr>
<tr>
<td><strong>Clinical and Administrative Data</strong></td>
<td></td>
</tr>
<tr>
<td>Healthcare record contains a diagnosis of acute hepatitis B</td>
<td>S</td>
</tr>
<tr>
<td>Death certificate lists acute hepatitis B as a cause of death or a significant condition contributing to death</td>
<td>S</td>
</tr>
<tr>
<td><strong>Laboratory Evidence</strong></td>
<td></td>
</tr>
<tr>
<td>Elevated serum aminotransferase (ALT or AST) levels</td>
<td>N</td>
</tr>
<tr>
<td>IgM antibody to hepatitis B core antigen (IgM anti-HBc) positive</td>
<td>S</td>
</tr>
<tr>
<td>Hepatitis B surface antigen (HBsAg) positive</td>
<td>S</td>
</tr>
</tbody>
</table>

Notes:
S = This criterion alone is sufficient to report a case
N = This criterion in conjunction with all other “N” and any “O” criteria in the same column is required to report a case.
O = At least one of these “O” criteria in each category in the same column (e.g., clinical presentation and laboratory findings)—in conjunction with all other “N” criteria in the same column—is required to report a case.
C. Disease Specific Data Elements:
Disease-specific data elements to be included in the initial report are listed below:

- Symptoms of viral hepatitis
- Serum aminotransferases
- Immunization history
  - Number of doses of Hepatitis B-containing vaccine received
  - Date of last dose

Epidemiological Risk Factors
During the 6 weeks to 6 months prior to the onset of symptoms:
- Previous testing for hepatitis B
- Contact with a person diagnosed with hepatitis B
- Inject or use any non-prescription drugs
- Receipt of blood or blood products
- History of surgery, dialysis, or other medical procedures or injections
- Tattoo or body piercing
- Jail or prison stay
- History of accidental stick or puncture with a sharps contaminated with blood or body fluids
- Diabetic who lives in congregate living situation (school, assisted living facility, skilled nursing home, group home)
- Sexual partners
  - Number of male sexual partners
  - Number of female sexual partners

VII. Case Definition for Case Classification

A. Narrative: Description of criteria to determine how a case should be classified.

Clinical case definition
An acute illness with a 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 either a) jaundice, or b) elevated serum alanine aminotransferase (ALT) levels >100 IU/L.

*A documented negative HBsAg laboratory test result within 6 months prior to a positive test (either HBsAg, HBeAg, or HBV NAT including genotype) result does not require an acute clinical presentation to meet the surveillance case definition.

Laboratory criteria for diagnosis:
Hepatitis B surface antigen (HBsAg) positive and IgM antibody to hepatitis B core antigen (IgM anti-HBc) positive (if done)

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

### B. Classification Tables:

**Table VII-B.** Criteria for case classification for a case of acute hepatitis B.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Case Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Presentation</strong></td>
<td></td>
</tr>
<tr>
<td>Jaundice</td>
<td>N</td>
</tr>
<tr>
<td>Acute onset of symptoms</td>
<td>N</td>
</tr>
<tr>
<td>Fever</td>
<td>O</td>
</tr>
<tr>
<td>Headache</td>
<td>O</td>
</tr>
<tr>
<td>Malaise</td>
<td>O</td>
</tr>
<tr>
<td>Anorexia</td>
<td>O</td>
</tr>
<tr>
<td>Nausea</td>
<td>O</td>
</tr>
<tr>
<td>Vomiting</td>
<td>O</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>O</td>
</tr>
<tr>
<td>Abdominal Pain</td>
<td>O</td>
</tr>
<tr>
<td><strong>Laboratory findings</strong></td>
<td></td>
</tr>
<tr>
<td>Elevated serum aminotransferase (ALT) levels</td>
<td>N</td>
</tr>
<tr>
<td>IgM antibody to hepatitis B core antigen (anti-HBc) positive (if done)</td>
<td>N</td>
</tr>
<tr>
<td>Hepatitis B surface antigen (HBsAg) positive</td>
<td>N</td>
</tr>
<tr>
<td>Hepatitis B e antigen (HBeAg) positive</td>
<td>O</td>
</tr>
<tr>
<td>Hepatitis B DNA (HBV DNA) positive</td>
<td>O</td>
</tr>
<tr>
<td>Negative HBsAg within 6 months prior to a positive test</td>
<td>N</td>
</tr>
<tr>
<td><strong>Clinical Evidence:</strong></td>
<td></td>
</tr>
<tr>
<td>No previous diagnosis of chronic hepatitis B</td>
<td>N</td>
</tr>
</tbody>
</table>

**Notes:**

N = This criterion in conjunction with all other “N” and any “O” criteria in the same column is required to classify a case.

O = At least one of these “O” criteria in each category in the same column (e.g., clinical presentation and laboratory findings)—in conjunction with all other “N” criteria in the same column—is required to classify a case.
VIII. Period of Surveillance

Surveillance should be on-going.

IX. Data sharing/release and print criteria

Notification to CDC of confirmed cases of acute hepatitis B is recommended.

- All states receive a biannual report of cases submitted for the year to date. In addition, reports of acute hepatitis B are summarized in the weekly *MMWR* and annually in the *MMWR Summary of Notifiable Diseases*. Also once a year, an extensive analysis of data is conducted for publication in a *Surveillance Summary* along with case reports of acute hepatitis A and C.

- At a minimum, all states receive a biannual report of cases, as well as the annual *MMWR* Summary of Notifiable Disease and the *Surveillance Summary* for acute viral hepatitis.

- Publication of data will follow this schedule (at a minimum):
  - Weekly in the tables of notifiable diseases in the *MMWR*
  - Biannual feedback to state health departments
  - Annually in the *MMWR annual Summary of Notifiable Diseases*
  - Annually in the *Surveillance Summary* of acute viral hepatitis

There is no current plan to re-release case data. Aggregate reports are publicly available, and states maintain confidential surveillance databases.

X. References


XI. Coordination:

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