HEPATITIS A

Disease Overview

Hepatitis A virus is found worldwide and there are geographic areas with differing levels of endemicity. In developed countries, disease transmission is most frequent among household and sexual contacts of acute cases, and occurs sporadically in day care centres, among travelers to endemic regions, among injection drug users and among men who have sex with men. Hepatitis A is a vaccine preventable disease.

Symptoms

Symptoms range from asymptomatic to sudden onset of fever, malaise, anorexia, nausea, and abdominal discomfort, followed within a few days by jaundice; and is greatly influenced by age. Anicteric (no jaundice) cases can occur, particularly in children under 6. Severity and duration of illness can vary from mild illness lasting 1-2 weeks to severe illness lasting several months. Acute liver failure from hepatitis A is rare and chronic infection is not known to occur although relapsing hepatitis can occur for up to one year in some cases. Lifelong immunity usually follows infection.

Reservoir

Humans are the main reservoir.

Mode of transmission

Person to person by fecal-oral route. Common source outbreaks are related to consumption of contaminated water or food usually contaminated by infected food handlers. Outbreaks have been traced to food sources such as:

- raw oysters, clams and other shellfish harvested from contaminated waters
- grocery produce

Transmission has been associated with injection and non-injection drug users.

Incubation period

Average 28-30 days (range 15-50 days).

Period of communicability

During the latter half of the incubation period, on average 14 days prior to first symptom onset to 7 days after jaundice onset or 14 days after first symptom onset, whichever is longer. Immunocompromised persons should be considered contagious for the duration of the illness.

Risk Factors

Increased risk of acquiring/severe illness:

- household or intimate contact of a case
- men who have sex with men
- intravenous drug users
- travellers to endemic countries

Note: publicly funded Hepatitis A vaccine is available for selected high-risk individuals. See New Brunswick Immunization Guide for further information.

Surveillance Case Definition

Confirmed case

Laboratory confirmation of infection in the absence of recent vaccination:

- Detection of immunoglobulin M (IgM) antibody to hepatitis A virus (anti HAV)

AND

- acute clinical illness (clinical illness is characterized by discrete onset of symptoms, including fever, malaise, anorexia, nausea and abdominal pain followed by jaundice or elevated aminotransferase levels within a few days).

OR

- An epidemiologic link to a person with laboratory-confirmed hepatitis A infection.

Probable case

Acute clinical illness in a person without laboratory confirmation of infection who is epidemiologically linked to a confirmed case.

Diagnosis and Laboratory Guidelines

Serological or blood testing is done by regional laboratories. One test is an ELISA test that includes only Immunoglobulin M (IgM anti-HAV) antibodies and indicates recent infection. Immunoglobulin M antibodies against hepatitis A virus (IgM anti-HAV or HAV-IgM) are detectable 5-10 days after exposure. Demonstration of HAV-IgM in acute or recently ill patients with a clinical history of symptoms establishes the diagnosis. IgM anti-HAV usually decreases to undetectable levels 3-6 months after recovery but can remain detectable for years after an infection.

The other test is a total immune status test that includes both Immunoglobulin M (IgM anti-HAV) and G antibodies (IgG anti-HAV). Immunoglobulin G antibodies (IgG anti-HAV) appear in the convalescent phase of infection and remains present in serum for the lifetime of the person and confers enduring protection against disease.

Vaccinated individuals may show undetectable level of IgG anti-HAV while being immune to the virus, making the total immune test a false negative.

The IgM test alone can have false positives and the result should be treated with caution, especially for individuals with no clinical symptoms and no epidemiological link to other cases. Acute/recent infection should be confirmed with clinical history symptoms and by repeat testing after 7 to 10 days. IgM test may also be positive for 2-3 weeks after immunization with hepatitis A vaccine.

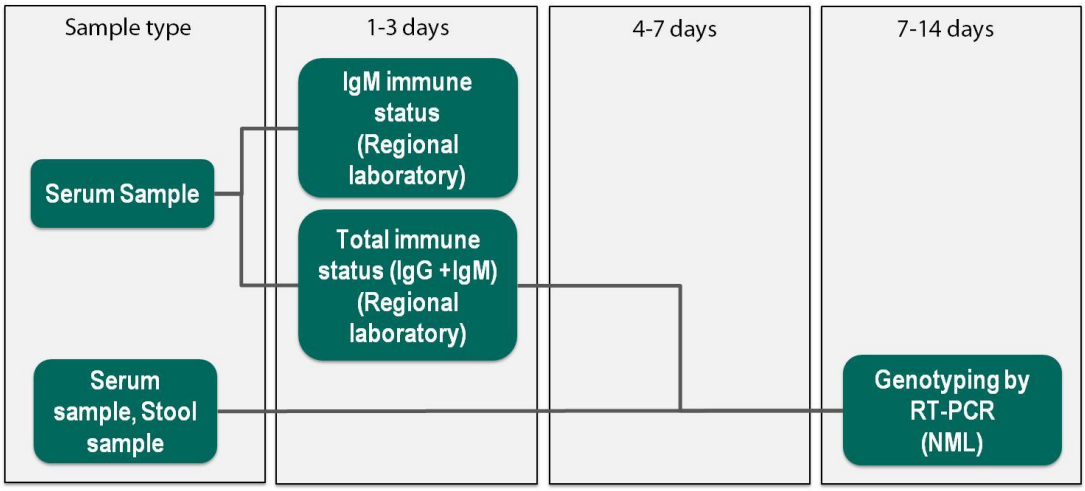
Interpretation Test Results:

HAV-IgM	HAV-Total Immune Status	Interpretation	Investigation Step
NEGATIVE	NEGATIVE	Not a case. Consider repeat testing testing in 7-10 days: a 4-fold or greater rise in specific antibodies in paired sera is diagnostic.	Consult with MOH
POSITIVE or EQUIVOCAL	NEGATIVE	Positive HAV-IgM and clinical history of symptoms is a case. Clinical illness is characterized by a discrete onset of symptoms including fever, malaise, anorexia, nausea and abdominal pain followed by jaundice or elevated aminotransferase levels within a few days.	Interview case
		Positive HAV-IgM without clinical history of symptoms does not necessarily indicate acute infection, likely indicates old infection or false positive or recent immunization. It may also indicate asymptomatic infection, which is more common in children less than 5 years of age.	Consult with MOH
NEGATIVE	POSITIVE or EQUIVOCAL	Not an acute or recent case, indicates immunity from past infection or vaccination history.	Consult with MOH
POSITIVE or EQUIVOCAL	POSITIVE or EQUIVOCAL	Likely not an acute case; could indicate immunity from past infection or vaccination history. Consider repeat testing in 7-10 days: a 4-fold or greater rise in specific antibodies in paired sera is diagnostic.	Consult with MOH

Genotyping the hepatitis A virus (HAV) by reverse transcription polymerase chain reaction (RT-PCR) provides information for public health purposes during outbreaks. HAV genotyping can be done on serum or stool samples at the National Microbiology Laboratory (NML). Referral to NML is through the regional laboratory.

Laboratory Testing

An overview of testing timelines for samples after the sample has been received by the laboratory. Turnaround times are averages and may change depending on the urgency of the situation.



Reporting

Per Policy 2.2 Disease and Event notification to OCMOH and Disease and Event Reporting section

- Enhanced Surveillance. For all confirmed cases, an enhanced surveillance form should be completed and information sent to OCMOH on a weekly basis (Enteric Database).
- Routine surveillance (RDSS) for all confirmed cases.

Case Management

Education

Case or relevant caregiver should be informed about:

- Nature of infection, length of communicable period and mode of transmission
- Enteric disease precautions
- Hand washing
- Safer injection practices
- Safer sex practices

Investigation

The ability to spread person to person rapidly, including children who are asymptomatic and have poor personal hygiene, and via contaminated food means single cases require prompt investigation.

Interview cases using the Hepatitis A investigation form. Obtain detailed history including food and water contact, daycares and other institutions, and travel. Potential sources of infection should receive follow up appropriate to risk.

Exclusion/Social Distancing

Follow exclusion period guidelines for cases under investigation (cases and symptomatic contacts) identified in high-risk individuals (food handlers, caregivers, and individuals in daycare centres and kindergartens).

Cases should follow enteric precautions during the first two weeks of illness and for up to 7 days after jaundice onset or 14 days after first symptom onset, whichever is longer.

Treatment

Not applicable

Immunization

Not applicable

Contact Management

Education

As per case management

Investigation

Identify contacts with significant exposure to cases (household, sexual, drug using, and other close personal contacts).

Advise symptomatic contacts to seek medical attention and laboratory diagnostic testing (blood test).

Exclusion/Social Distancing

Follow exclusion period guidelines for cases under investigation (cases and symptomatic contacts) identified in high-risk individuals (food handlers, caregivers, and individuals in daycare centres and kindergartens).

Symptomatic contacts should follow routine enteric precautions during the first two weeks of illness and for up to 7 days after jaundice onset or 14 days after first symptom onset, whichever is longer.

Prophylaxis

Immunoprophylaxis should be undertaken for household and other intimate contacts (sexual, drug using and other close personal contacts) of proven or suspected cases of HA. It should be given when hepatitis A occurs in day care centers and kindergartens. Post-exposure prophylaxis is not necessary for other contacts not considered intimate, such as school, workplace, or health care workers caring for HA cases unless an outbreak is suspected or likely. One dose of HA vaccine should be given to susceptible contacts as soon as possible and preferably within 14 days of last exposure. In babies under one and some other situations immunoglobulin may be considered. Consult with RMOH and see Canadian Immunization Guide for further information.

Refer to New Brunswick Immunization Program Guide for eligibility criteria for publicly funded vaccines.

Outbreak Management

Activate the local plan when an outbreak is declared.

Determine if population at risk is suitable for immunization. Hygiene advice to cases, contacts, and any implicated institution. Ensure toilet and hygiene facilities are adequate.

HA vaccine should be considered as an important control measure in a coordinated public health response to hepatitis A outbreaks in the community and institutions (correctional facilities, long term care facilities, nursing homes, etc). All employees, volunteers, and other personnel with direct patient contact who

cannot provide documentation that they have received HA vaccine or other evidence of immunity should receive a dose of HA vaccine. Discuss with RMOH.

When a food handler is infected, consider post-exposure prophylaxis for co-workers. Discuss with RMOH.

See New Brunswick Immunization Guide and Canadian Immunization Guide for further information.