

Hepatitis A in British Columbia, update January 13th 2008

This report includes:

Hepatitis A case definition

Links to 3 research papers funded by BC Ministry of Health (2005-07)

- A Review of Provincial/Territorial Strategies for Hepatitis A Pre- and Post-Exposure Prophylaxis
- The changing epidemiology of hepatitis A in British Columbia: using Health Authority follow-up data to inform policy and practice
- A provincial and territorial review of hepatitis A in men who have sex with men

Review of HAV cases in BC for 2006 and first half of 2007

Travel in enteric infections working group policy

HAV cases in BC, 2007

Laboratory update

Hepatitis A vaccine immunogenicity in persons with HCV

Clinical trial compares post-exposure efficacy of HAV vaccine vs. immunoglobulin

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Hepatitis A case definition (updated in CD policy manual)

Confirmed case of hepatitis A

Laboratory confirmation of infection in the absence of recent vaccination:

- detection of Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV)
AND

1) Acute illness with discrete onset of symptoms and jaundice or elevated serum aminotransferase levels

OR

2) An epidemiological link to a person who had laboratory-confirmed hepatitis A

Probable case of hepatitis A

Acute clinical illness in a person who is epidemiologically linked to a confirmed case

Laboratory Confirmation Positive for HAV IgM antibody

Indications and limitations

- Anti-HAV IgM results should be repeated in duplicate and should include testing for anti-HAV total. If the anti-HAV total is negative then the initially reactive anti-HAV IgM result should be considered "false positive".
- IgM positive results can be a true positive but reflect a remote infection, as HAV-IgM can remain detectable for years after an acute infection due to trailing IgM or the non-disappearance of anti-HAV IgM after recent infection. Acute/recent infection should be confirmed with clinical history symptoms, and by repeat titre after a week or so.

Clinical Evidence

Acute clinical illness is characterized by abrupt fever, malaise, anorexia, nausea and abdominal pain followed by jaundice or elevated aminotransferase levels within a few days.

Three papers from BC Ministry of Health funding published in CDR

1. A Review of Provincial/Territorial Strategies for Hepatitis A Pre- and Post-Exposure Prophylaxis

<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/05vol31/dr3119eb.html>

2. The changing epidemiology of hepatitis A in British Columbia: using Health Authority follow-up data to inform policy and practice

<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/06vol32/dr3220eb.html>

Between 1998 and 2004 in BC decreasing rates of HAV were reported in MSM and IDU risk groups, but travelers increasingly accounted for a significant proportion of the HAV disease burden (40% in 2004 where risk factors were known).

HAV causes considerable burden; 1998-2004 in BC, three events associated with an HAV case led to 6,400, 180 and 474 individuals subsequently being immunized; 8% of cases where follow-up was available were hospitalized and 2 deaths occurred.

3. A provincial and territorial review of hepatitis A in men who have sex with men

<http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/07vol33/index.html>

MSM no longer make up a significant proportion of HAV cases in the P/T's where this risk factor information is collected. This decline may be the result of targeted immunization campaigns and pre-exposure immunization policies, or in part follow the natural cycle of the disease. The systematic collection of MSM risk factor information would help assess whether this burden is indeed small in all P/T's and enable early identification of future outbreaks in MSM populations to allow timely public health interventions

Review of HAV cases in BC for 2006 and first half of 2007

Summary

- The importance of follow-up was illustrated by the lack of follow-up of one case which led to a 2nd case and necessitated immunization of co-workers and contacting clients.
- Exposure at a Vancouver restaurant led to 3 BC and 1 US case, the source was not identified. A local media alert was issued and an International follow-up of skiers potentially exposed by one of the cases undertaken.
- Only a few cases were identified as travel-related but this is often not recorded in iPHIS. 7/72- 4 Mexico, 1 Afghanistan, 2 Pakistan
 - When entering into iPHIS please enter exposure as travel ***as per 'travel in enteric infections working group project below'***.

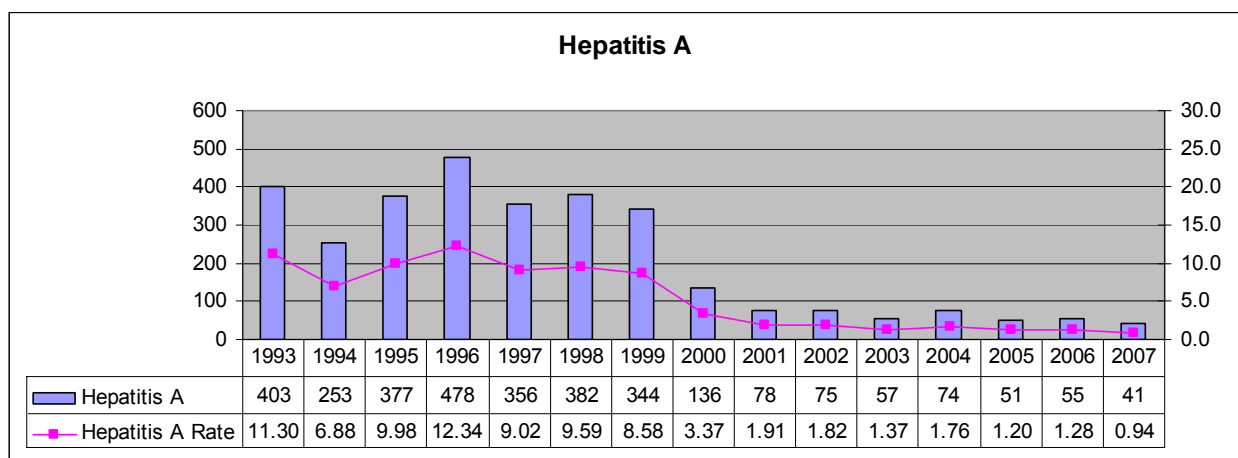
- A cluster of 8 HAV cases, with onset dates were between Nov 26th 2006 and February 21st 2007, was identified by typing at the National laboratory. Packaged organic vegetables/salad mixes were commonly consumed by cases but despite follow-up the source was not identified.
- Not all samples identified at local laboratories are sent to BCCDC and identified as acute cases needing further typing. Some are sent to BCCDC requesting total HAV-IG but not indicated as acute; this reduces the ability to identify clusters and explore potential sources of infection. **Please ensure your local labs are sending specimens to BCCDC and indicating they are acute HAV.**

Travel in enteric infections WG policy

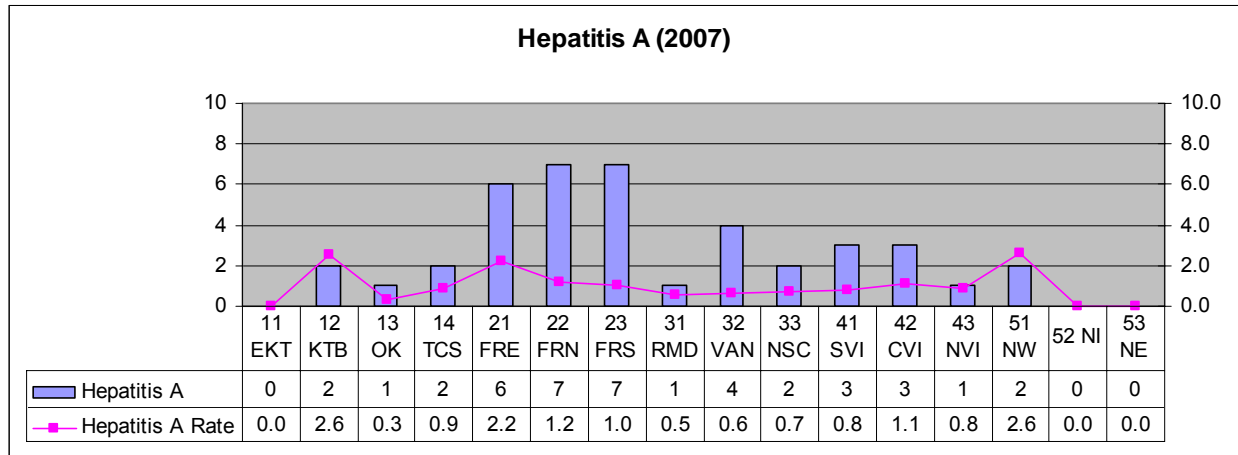
The BC Enteric Policy working group approved a proposal to assess number and proportions of enteric infections in BC associated with travel outside BC, this includes hepatitis A. Once the HAV case data is entered into iPHIS and saved the travel exposure can be recorded by selecting the ‘exposures’ tab; the drop down list includes: “Travel –out of country”, “Travel –within country”, “Travel –within BC” or “Travel –none” If you have questions about data entry or about which cases fit the definition of a travel-related infection, please consult the enteric policy working group member in your health authority.

HAV cases in BC, 2007

We continue to see an overall decline in HAV cases reported provincially; in 2007 there were a total of 41 cases reported for a rate of less than 1 per 100,000. This is down from 55 cases in 2006 and 51 in 2005; and compared to >350 10 years ago. Of the 41 cases reported in 2007 - 22 (54%) were male.



The geographic distribution of the 2007 hepatitis A cases are shown in the graph below; nearly 50% were reported in Fraser Health.



Laboratory Update

As false positives are found on primary screening, BCCDC verifies all HAV-IgM reactive specimens (primary test on Bayer, secondary on Abbott). Peripheral labs use one platform only. In October 2007, Dr Krajden formally requested MDS and BC Bio to send serum from HAV-IgM reactives to BCCDC so they could be forwarded to NML.

Hepatitis A vaccine immunogenicity in persons with HCV

A literature review of HAV immunization in persons with hepatitis C infection (HCV) was performed. It was concluded that individuals with HCV respond well to HAV vaccine, also routine laboratory testing may not detect lower levels of vaccine-induced anti-HAV; thus post immunization testing of individuals with HCV is not recommended.

Clinical trial compares post-exposure efficacy of HAV vaccine vs. IG

Households and daycare contacts of HAV cases aged 2-40 years in Kazakhstan were randomly assigned to receive IG or HAV vaccine ≤ 14 days post-exposure (PEP). The performance of vaccine approached that of IG. Post-exposure HAV vaccine provides numerous public health advantages including the induction of active immunity, longer protection, greater ease of administration and higher acceptability and availability. The US now recommends HAV vaccine for PEP persons aged 2-40 years.

Reference: Victor JC, Monto AS, Surdina TY, Suleimenova SZ, Vaughan G, Nainan OV, Favorov MO, Margolis HS, Bell BP. Hepatitis A vaccine versus immune globulin for postexposure prophylaxis. *N Engl J Med.* 2007 Oct 25;357(17):1685-94. Epub 2007 Oct 18.

In BC we have offered HAV vaccine PEP since 2002