

731-4024
731-4798

March 19, 2004

Re: Collection of serum for hepatitis A viral sequencing

Dear Communicable Disease Investigator,

I would like to ask that you routinely submit serum from patients with hepatitis A to the Oregon State Public Health Laboratory (OSPHL) for RNA sequencing.

As you know, molecular subtyping has proved to be quite useful in linking bacterial strains. For several years, we have routinely submitted all isolates of *Salmonella*, *E. coli* O157, and *Shigella sonnei* in Oregon to pulse field gel electrophoresis (PFGE), and the PFGE data typically part of outbreak investigations.

In similar fashion, CDC has employed viral sequencing to trace outbreaks of hepatitis A. In 1997, outbreaks in Maine and Michigan were associated epidemiologically with strawberries served at school lunches; RNA sequencing showed the viruses from outbreak cases in the two states to be identical, and different from background strains from sentinel counties in different parts of the U.S.¹ In 1998, an outbreak was traced to green onions served in several items at a Mexican restaurant in Ohio. Sequences of viruses from these patients were identical to each other and to those of 3 cases who were infected in Mexico, whence the green onions were imported.² On the other hand, cases from another outbreak unfolding at the same time in Ohio, which were suspected to sprung from the same source, were shown by sequencing to have been caused by a completely different strain.

It turns out that when patients test positive for hepatitis A, viral RNA can almost always be recovered from the IgM-positive serum. CDC has agreed to perform this testing for us. I ask, therefore, that whenever a case of hepatitis A is reported, you ask the laboratory that produced the positive IgM result to send the remainder of the serum from that test to OSPHL, whence it will be forward to CDC for viral

sequencing. This holds out to us the prospect of being able to find linkages among our own apparently sporadic cases of hepatitis A.

Shipping instructions

1. If the specimen has already been frozen, keep it frozen and ship it frozen (the virus doesn't like freeze-thaw cycles).
2. If the specimen has not been frozen, ship refrigerated or on wet ice.
3. Include a Virology/Immunology Request form #42 with the top portion (demographics and submitter information) filled in completely; check the "Other" box under "Miscellaneous serology" and write "HAV RNA sequencing" on the line. This form can be downloaded at <http://www.dhs.state.or.us/publichealth/vi/virol.pdf>.
4. If you want to get a copy of the results, list your Health Department as the submitter. Otherwise, list ACDP.

We will also post this letter to our web site under "Resources for Local Health Departments" (<http://www.healthoregon.org/acd/index.cfm#lhd>) and under the Information for county health departments on the hepatitis A page (<http://www.healthoregon.org/acd/hepa/index.cfm>).

Yours sincerely,

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References

1. Hutin YJ, Pool V, Cramer EH, et al. A multistate, foodborne outbreak of hepatitis A. National Hepatitis A Investigation Team. N Engl J Med 1999;340:595-602.
2. Dentinger CM, Bower WA, Nainan OV, et al. An outbreak of hepatitis A associated with green onions. J Infect Dis 2001;183:1273-6.

If you need this information in an alternate format please call 503/731-4024