
Date: August 14, 2012

To: Infectious Disease Physicians, Medical Officers of Health, Intensive Care Physicians, Neurology Physicians, Transplant Program Directors and Coordinators, Emergency Physicians, Laboratory Directors and Managers

From: Provincial Laboratory for Public Health (ProvLab)

Re: Modification of Viral Testing on CSF samples to include parechoviruses

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Key messages:

Effective August 27, 2012, the current enterovirus assay used at ProvLab will be replaced by a multiplex assay that will test simultaneously for enteroviruses and parechoviruses. All cerebrospinal fluid (CSF) samples received at ProvLab with a request for “viral PCR”, “viral culture”, “viral studies” or a diagnosis of encephalitis or aseptic meningitis will be tested by default for enteroviruses and parechoviruses, as well as for Herpes simplex virus (HSV) and Varicella zoster virus (VZV). In season (June 1 to October 30), these CSF samples will also be tested for West Nile virus (WNV) if requested by the clinician.

Please note that requests for molecular detection of other viruses in CSF samples require a consultation with the Virologist-on-Call (VOC) at ProvLab prior to submission.

Background:

Human parechoviruses constitute a new genus within the family *Picornaviridae* and are closely related to enteroviruses, although they are not detected by standard molecular assays for the detection of enteroviruses. Much remains to be learned about these viruses. They have however been firmly linked with central nervous system diseases including aseptic meningitis, encephalitis and flaccid paralysis. In particular, human parechovirus 3 (HPeV-3) has been identified as a cause of severe encephalitis in the newborn. Detection of parechoviruses in the CSF is considered diagnostic. HPeV-3 has also been shown to be a cause of neonatal sepsis, and of neonatal hepatitis-coagulopathy syndrome. Testing on blood samples for newborns with these diseases can be obtained through contact with the VOC. An additional molecular typing assay for parechoviruses can be performed on positive samples by request to the VOC.

Parechoviruses have also been tentatively linked to respiratory and gastrointestinal diseases, although it is also known that, like for enteroviruses, most infections are asymptomatic. Shedding in the respiratory tract or in stools can be prolonged and detection of parechoviruses in respiratory or stool samples must be interpreted with caution.

Suggested reference: Harvala H et al, Curr Opin Infect Dis 2010; 23: 224-2230

Inquiries and feedback may be directed to:

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- Edmonton Site – Phone: 780-407-7121 (ask for Virologist-on-Call)
- Calgary Site – Phone: 403-944-1200 (ask for Virologist-on-Call)

This bulletin has been reviewed and approved by Dr. Graham Tipples, Medical Director, ProvLab