

Appendix B: Provincial Case Definitions for Reportable Diseases

Disease: Hemorrhagic fevers, including: i) Ebola virus disease;
ii) Marburg virus disease, and iii) Other viral causes

Hemorrhagic fevers, including: i) Ebola virus disease; ii) Marburg virus disease; iii) Other viral causes

1.0 Provincial Reporting

Confirmed, probable and suspect cases of disease

2.0 Type of Surveillance

Case-by-case

3.0 Case Classification

3.1 Confirmed Case

Clinically compatible signs and symptoms with:

- Detection of virus-specific nucleic acid by reverse-transcriptase polymerase chain detection (RT-PCR) from an appropriate clinical specimen (e.g., blood, urine, throat washings, tissue)

AND

Confirmation using at least one of the following:

- Demonstration of virus antigen in tissue (e.g., skin, liver, or spleen) by immunohistochemical or immunofluorescent techniques
- Demonstration of specific Immunoglobulin M (IgM) antibody by enzyme-linked immuno-sorbent assay (ELISA), enzyme immunoassay (EIA), immunofluorescent assay, or Western Blot
- Demonstration of a significant (i.e., fourfold or greater) rise in Immunoglobulin G (IgG) serum antibody by EIA, immunofluorescent assay, or Western Blot
- RT-PCR on an independent target gene and/or independent sample or confirmation through another reference laboratory

OR

- Isolation of virus from an appropriate clinical specimen (e.g., blood, tissue, urine specimens, or throat secretions)

3.2 Probable Case

A case with clinically compatible signs and symptoms and a history within the 3 weeks before onset of fever of the following:

- Travel in a specific area of a country where an outbreak of viral hemorrhagic fever (VHF) has recently occurred

OR

- An epidemiologic link with a confirmed or probable case

OR

- Direct contact with blood or other body fluids from a confirmed or probable case of VHF

OR

- Works in a laboratory that handles VHF virus specimens or in a facility that handles animals with VHF

OR

A nucleic acid amplification test (NAT) positive without laboratory confirmation by another approved or validated test (See Section 4.2)

3.3 Suspect Case

Clinically compatible signs and symptoms in the absence of an epidemiologic link to a laboratory-confirmed case or a probable case

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

Any of the following will constitute a confirmed case of Viral Hemorrhagic Fever:

- Positive viral hemorrhagic fever (VHF) culture
- Positive VHF antigen AND positive NAT for VHF
- Positive VHF antigen OR positive NAT for VHF AND positive by one confirmatory method (see below)

4.2 Approved/Validated Tests

- Culture
- NAT
- Antigen detection
- IgM and IgG serology

4.3 Indications and Limitations

- Any testing related to suspected VHF should be carried out under Level 4 containment facilities at the National Microbiology Laboratory

5.0 Clinical Evidence

Viral hemorrhagic fever includes Lassa, Junin, Machupo, Sabia, Guanarito (arenaviruses); Crimean Congo, Rift Valley fever virus (bunyaviruses); Ebola, Marburg (filoviruses), Dengue virus, Yellow fever, Omsk hemorrhagic fever, Kyasanur Forest Disease virus (flaviviruses).

Clinical manifestations are non-specific and vary by agent; patients initially exhibit a non-specific prodrome typically lasting less than 1 week. Onset can be abrupt (filovirus, flavivirus, bunyavirus) or insidious (arenavirus). Symptoms typically include high fever, headache, malaise, weakness, arthralgias, myalgias, irritability, dizziness, nausea, vomiting, abdominal pain, and nonbloody diarrhea. Signs typically include fever, hypotension, shock, relative bradycardia, tachypnea, conjunctivitis, and pharyngitis. Several Viral Hemorrhagic Fevers (VHFs) are associated with cutaneous flushing or a skin rash. Later signs include progressive hemorrhagic diathesis (petechiae, mucous membrane and conjunctival hemorrhage), hematuria, hematemesis, melena, disseminated intravascular coagulation, circulatory shock, and central nervous system dysfunction (delirium, convulsions, cerebellar signs, coma). Differential diagnosis is an important consideration and should include multiple viral and bacterial diseases.

A clinical consultation is necessary for diagnosis

6.0 ICD Code(s)

ICD 10 Code A98.4 - Ebola virus disease

ICD 10 Code A98.3 - Marburg virus disease

ICD 10 Code A99 - Other viral causes

7.0 Comments

- Contact the PHD of the MOHLTC immediately using the 24 hour emergency line, (416) 212-6361 or (416) 212-6362, even in the event of a suspected case.
- Travel history information is important in the analysis of the epidemiology of haemorrhagic fevers.

8.0 References

- Ministry of Health and Long-Term Care, Public Health Division. iPHIS manual. Toronto, ON: Queen's Printer for Ontario; 2005.
- Nationally Notifiable Diseases Case Definitions with Canadian Public Health Laboratory Network (CPHLN) and Epidemiologic Group Draft Edits. March 2007. Based on case definitions as written in the: Health Canada. Case definitions for diseases under national surveillance. Can Commun Dis Rep. 2000; 26 Suppl 3:i-iv 1-122. Available from <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/00pdf/cdr26s3e.pdf>.

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