Alberta Public Health Disease Management Guidelines

Viral Haemorrhagic Fever

Includes:
Argentine Haemorrhagic Fever
Crimean Congo Haemorrhagic Fever
Lassa Fever
Marburg Haemorrhagic Fever and
Rift Valley Haemorrhagic Fever

Alberta

This publication is available online at https://open.alberta.ca/publications/viral-haemorrhagic-fever

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Health and Wellness Promotion Branch

Public Health and Compliance Division

Alberta Health

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Confirmed Case

Suspect or probable case with laboratory confirmation of infection:[(A)]

- Detection of virus-specific nucleic acid (e.g., PCR) from an appropriate clinical specimen (e.g., blood, serum, tissue)

  AND

- Demonstration of virus antigen in an appropriate clinical specimen (e.g., blood, serum, tissue) by EIA

OR

- One of the above criteria PLUS laboratory confirmation using **AT LEAST ONE** of the following:
  - Demonstration of virus antigen in tissue (skin, liver or spleen) by IHA or IFA techniques
  - Demonstration of specific IgM antibody by EIA, IFA or Western Blot
  - Demonstration of a fourfold rise in IgG serum antibody by EIA, IFA or Western Blot

OR

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

[(A)] Any testing related to suspected viral haemorrhagic fever (VHF) should be carried out under level 4 containment facilities (National Microbiology Laboratory [NML]) due to issues of security, expertise and personnel vaccination. Contact the Public Health Agency of Canada immediately using the 24-hour emergency line (1-800-545-7661), even in the event of a suspected case, in order to develop an Emergency Response Assistance Plan to ensure safe shipping of the sample to the NML.

Probable Case

Clinical illness[B] and a history within the three weeks prior to onset of fever of **ONE** of the following:

- Travel in a specific area of a country where an outbreak of viral haemorrhagic fever (VHF) has recently occurred
- Contact with a suspect, probable or confirmed case
- Direct contact with blood or other body fluid secretions or excretions of a person or animal with a confirmed or probable case of VHF
- Work in a laboratory or animal facility that handles haemorrhagic fever viruses

Suspect Case

Clinical illness[B]

[B] **Argentine HF**: The disease has an incubation period of six to 17 days and the onset of symptoms is relatively slow. Initial symptoms are not very specific (fever, headache, myalgia, conjunctival suffusion, bleeding and abdominal pain). Thrombocytopenia, axillary petechiae, and encephalopathy are usually present and mucosal bleeding occurs in severe cases. Proteinuria is common, but renal failure is unusual. Shock develops seven to nine days after onset of illness in more severely ill patients. Encephalopathic signs such as tremor, alterations in consciousness, and seizures can occur.[1]

Crimean Congo HF: Acute viral illness consisting of sudden onset fever, malaise, generalized weakness, anorexia, irritability, confusion, headache and pain in the limbs and groin. Fever generally lasts five to 12 days and is followed by a prolonged convalescent phase. Acute symptoms are usually accompanied by flushing, conjunctival injection and petechial or purpuric rash involving mucosal surfaces, chest and abdomen. Vomiting, abdominal pain and diarrhea are occasionally seen. Bleeding may be seen from gums, nose, lungs, uterus and GI tract. There is often thrombocytopenia, mild hematuria and proteinuria and evidence of hepatic involvement. Severe cases may be associated with liver failure.[2]

Lassa Fever: Acute viral illness lasting one to four weeks. Gradual onset of symptoms including fever, headache, generalized weakness, malaise, sore throat, cough, nausea, vomiting, diarrhea, myalgia, and chest and abdominal pain. Fever may be persistent or intermittent. Inflammation and exudation of the pharynx and conjunctivae are commonly observed. Many cases are mild or asymptomatic. Severe cases may result in hypotension, shock, pleural effusion, hemorrhage, seizures, encephalopathy and proteinuria, resulting in edema of the face and neck.[2]

Marburg HF: Severe acute viral illness consisting of sudden onset fever, malaise, myalgia, headache, conjunctival injection, pharyngitis, vomiting and diarrhea that can be bloody. Often accompanied by a maculopapular or petechial rash that may progress to purpura. Bleeding from gums, nose, injection sites and GI tract occurs in about 50% of patients. Dehydration and significant wasting occur as the disease progresses. In severe cases, the haemorrhagic diathesis may be accompanied by leucopenia, thrombocytopenia, hepatic, renal and central nervous system involvement or shock with multi-organ dysfunction.[2]

Rift Valley HF: Human infections are usually associated with a brief, self-limited febrile illness. Most patients experience sudden onset of fever, malaise, severe myalgias with lower back pain, chills, headache, retro-orbital pain, photophobia and anorexia. Fever usually lasts for four days. In a minority of patients, fever returns after two or three days, accompanied by return of symptoms as well as flushed face, nausea, vomiting and injected conjunctivae. Severe disease is associated with bleeding, shock, anuria and icterus. Enchepalitis and retinal vasculitis can also occur.[2]

Reporting Requirements

Reporting should be etiology-specific.

Physicians, Health Practitioners and Others

Physicians, health practitioners and others shall notify the Medical Officer of Health (MOH) (or designate) of the zone, of all confirmed, probable and suspect cases in the prescribed form by the Fastest Means Possible (FMP).

Laboratories

All laboratories shall report all positive laboratory results by FMP to the:

- MOH (or designate) of the zone, and
- Chief Medical Officer of Health (CMOH) (or designate).

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- The MOH (or designate) of the zone where the case currently resides shall notify the CMOH (or designate) by FMP of all confirmed, probable and suspect cases.
- The MOH (or designate) of the zone where the case currently resides shall forward the initial Notifiable Disease Report (NDR) of all confirmed, probable and suspect cases to the CMOH (or designate) within one week of notification and the final NDR (amendment) within two weeks of notification.
- For out-of-province and out-of-country reports, the following information should be forwarded to the CMOH (or designate) by FMP:
  - name,
  - date of birth,
  - out-of-province health care number,
  - out-of-province address and phone number,
  - positive laboratory report, and
  - other relevant clinical/epidemiological information.

Appendix 1: Revision History

Revision Date	Document Section	Description of Revision
November 2021	General	• Updated Template

References

1. American Academy of Pediatrics. Hemorrhagic fevers caused by arenaviruses. In: Pickering LL, Baker CJ, Kimberlin DW, Long SS, editors. Red Book: 2009 Report of the Committee on Infectious Diseases. 28th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2009. p. 325-326.

2. Public Health Agency of Canada. Case definitions for communicable diseases under national surveillance – 2009. CCDR 2009.