Appendix A: Disease-Specific Chapters

Chapter: Encephalitis, including: i) Primary, viral; ii) Post-infectious; iii) Vaccine-related; iv) Subacute sclerosing panencephalitis, and v) Unspecified

Ontario

Encephalitis, including: i) Primary, viral; ii) Post-infectious; iii) Vaccine-related; iv) Subacute sclerosing panencephalitis, and v) Unspecified

☒ Communicable

☐ Virulent

Health Protection and Promotion Act:
Ontario Regulation 559/91 – Specification of Reportable Diseases

Health Protection and Promotion Act:
Ontario Regulation 558/91 – Specification of Communicable Diseases

1.0 Aetiologic Agent

Encephalitis is an acute inflammatory disease involving parts of the brain, spinal cord and meninges caused by specific viruses such as, enteroviruses, coxsackie virus, arboviruses, St. Louis encephalitis virus (SLE), Western equine encephalitis virus (WEE), Eastern equine encephalitis (EEE) and California encephalitis (CE) as well as bacteria, fungi, and protozoa [1, 2].

2.0 Case Definition

2.1 Surveillance Case Definition

See Appendix B

2.2 Outbreak Case Definition

Not applicable

3.0 Identification

3.1 Clinical Presentation

Most viral encephalitis infections are asymptomatic; mild cases often occur as febrile headache; severe infections are usually marked by acute onset, with headache, high fever, meningeal signs, stupor, disorientation, coma, tremors, occasional convulsions and spastic paralysis [1].

In post-infectious encephalitis, the clinical presentation includes confusion, seizures, headaches, stiffness of the neck and fever; ataxia may occur; most people recover fully, however, spinal involvement may lead to paraplegia or quadriplegia [1].

3.2 Diagnosis

See Appendix B

4.0 Epidemiology

4.1 Occurrence

Viral encephalitis occurs worldwide; more frequently in summer and early fall [1]. Post-infectious encephalitis can occur after vaccination or nondescript respiratory infections; the most common viruses implicated are measles, rubella, smallpox and chicken pox [1].

In Ontario, the group of conditions encompassing encephalitis and meningitis (of viral, bacterial, other, or unspecified origin) have been reported at an average of 447 cases each year from 1998-2007.

4.2 Reservoir

Depends on causative agent.

4.3 Modes of Transmission

Depends on causative agent.

4.4 Incubation Period

Depends on causative agent; for primary viral, the incubation period is usually 5-15 days [1].

4.5 Period of Communicability

Varies depending on causative agent.

4.6 Susceptibility and Resistance

Susceptibility to clinical disease is usually highest in infancy and in old age [1].

5.0 Reporting Requirements

5.1 To local Board of Health

Confirmed and suspected cases shall be reported to the medical officer of health by persons required to do so under the *Health Protection and Promotion Act*, R.S.O. 1990.

5.2 To Public Health Division (PHD)

Report only case classifications specified in the case definition to PHD.

Encephalitis due to *Haemophilus influenzae b, Neisseria meningitidis, Streptococcus pneumoniae* (IPD), Tuberculosis, West Nile Virus, or *Listeria monocytogenes* shall be reported under the corresponding diseases.

Post-infectious encephalitis due to measles, rubella, mumps or varicella shall be reported under the respective condition as a complication of the illness.

Post-vaccine encephalitis shall be reported as an Adverse Event Following Immunization (AEFI).

Cases shall be reported using the integrated Public Health Information System (iPHIS), or any other method specified by the Ministry **within five business days of receipt of initial notification** as per *iPHIS Bulletin* Number 17: Timely Entry of Cases [3].

The minimum data elements to be reported for each case is specified in the following:

- *Ontario Regulation 569* (Reports) under the Health Protection and Promotion Act (HPPA);
- The disease-specific User Guides published by the Ministry, and
- Bulletins and directives issued by the Ministry.

6.0 Prevention and Control Measures

6.1 Personal Prevention Measures

Measures:

- Proper hand hygiene and avoidance of sharing utensils, cups and other items to prevent infections that could lead to encephalitis
- Protection against vectors including: mosquito control programs; personal precautions to avoid arthropod bites include repellents and protective clothing and staying in screened or air-conditioned locations and travellers to tropical countries should consider bringing mosquito bed nets and aerosol insecticide sprays

6.2 Infection Prevention and Control Strategies

Routine practices are recommended for hospitalized cases and additional precautions would depend on causative organism.

6.3 Management of Cases

Investigate the case to determine source of infection. Refer to *Regulation 569* under the HPPA for relevant data to collect including the following:

- Symptoms and date of symptom onset;
- Travel history;
- History of exposure or risk behaviours;
- Earliest and latest exposure dates;
- Occupation;
- History of immunization in last 3 weeks, and
- History of infectious illness in last 10 days.

Treatment is mainly supportive.

6.4 Management of Contacts

Not applicable.

6.5 Management of Outbreaks

Not applicable.

7.0 References

1. Heymann D, editor. Control of communicable diseases manual. 18th ed. Washington: American Public Health Association; 2004.
2. Pickering LK, Baker CJ, Long SS, McMillan JA, editors. Red book: 2006 report of the Committee on Infectious Diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006. Section 3, Summaries of infectious diseases; p. 211-7.
3. Ministry of Health and Long-Term Care. Timely entry of cases. iPHIS Bulletin. 2007 May 11;17.

8.0 Additional Resources

Health Canada, Laboratory Centre for Disease Control, Division of Nosocomial and Occupational Infections. Routine practices and additional precautions for preventing the transmission of infection in health care.Can Commun Dis Rep. 1999 Jul;25 Suppl 4:1-142. Available from http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/99pdf/cdr25s4e.pdf.

Health Protection and Promotion Act, R.S.O. 1990, c. H.7. Available from http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90h07_e.htm.

ISBN #978-1-4249-8795-5

Ontario