

HEPATITIS E

Based on the MoH Communicable Diseases Control Manual 2012¹

Associated Documents

Case Report Form
K:\CFS\ProtectionTeam\FinalDocs\notifiableConditions\Hepatitis D\FormsStdLettersQuest\HepBCNOS_Nov2013.pdf

Fact Sheet:
<K:\CFS\Quality\ApprovedDocuments\ProtectionTeam\FactSheets\HepatitisEFactSheet.pdf>

The Illness

Hepatitis E (HEV) is an enteric infection with a similar course to hepatitis A¹ and globally is one of the most common causes of acute viral hepatitis. Although HEV infection has a global distribution, a large majority of its disease burden is in Asia and Africa² with over 60% of all infections occur in East and South Asia.³ It is associated with a high case fatality rate (up to 25%) in pregnant women affected in their third trimester of pregnancy.⁴ The clinical signs and symptoms in patients with typical HEV infection are similar to those seen with other forms of acute viral hepatitis.²

Every year, there are an estimated 20 million HEV infections worldwide, leading to an estimated 3.3 million symptomatic cases of hepatitis E¹, and 56 600 hepatitis E-related deaths.⁴ Seroprevalence increases with age and wide variations are seen within regions. Anti-HEV prevalence rates are higher in developing countries as compared with developed.²

Sporadic cases that have been described in western countries have mostly been limited to visitors who have travelled to areas of the world that are endemic for HEV although cases that were not associated with travel are also reported. Zoonotic transmission has occurred from pigs, undercooked deer meat and wild boar meat. Rodents appear to serve as a reservoir in some regions.² Hepatitis E has been found in pig herds in Australia³ and New Zealand.⁵

Epidemiology in New Zealand

Hepatitis E is very uncommon in New Zealand. From 2011 to 2016 there were 0-6 cases notified annually of whom more than half had a history of travel.⁶

CASE DEFINITION

Clinical description

An illness with variable symptoms including fever, malaise, anorexia and nausea with jaundice and/or elevated serum aminotransferase levels.¹

Incubation period: 15–64 days¹

Mode of transmission:^{2,4} Transmission of hepatitis E virus (HEV) can occur through contaminated food and water, blood transfusions, and mother-to-child transmission. Distinct genotypes differ in their route of transmission. The hepatitis E virus is transmitted mainly through the faecal-oral route due to faecal contamination of drinking water. Other transmission routes have been identified, which include:

- foodborne transmission from ingestion of products derived from infected animals
- transfusion of infected blood products
- vertical transmission from a pregnant woman to the foetus
- person-to-person transmission via the faecal-oral route (uncommon).

Communicability: The period of communicability is unknown. HEV has been detected in faeces 14 days after the onset of jaundice and 4 weeks after ingestion of contaminated food or water.⁷ Although person-to-person transmission is uncommon, patients are infectious during faecal shedding.²

Prevention:^{3,4} The risk of infection and transmission can be reduced by:

- maintaining quality standards for public water supplies

	<ul style="list-style-type: none"> – establishing proper disposal systems to eliminate sanitary waste. <p>On an individual level, infection risk can be reduced by:</p> <ul style="list-style-type: none"> – maintaining hygienic practices such as hand washing with safe water, particularly before handling food – avoiding drinking water and/or ice of unknown purity – avoiding eating uncooked shellfish, and uncooked fruits or vegetables that are not peeled or that are prepared by people living in or travelling in highly endemic countries. <p>There is a vaccine against HEV in China but this is not available in New Zealand.⁴</p>
<p>Notification Procedure</p>	
	<p>Attending medical practitioners or laboratories must notify the local medical officer of health of probable or confirmed cases.</p> <p>Case Classification</p> <ul style="list-style-type: none"> • Under investigation: A case that has been notified, but information is not yet available to classify it as probable or confirmed. • Probable: Not applicable. • Confirmed: A clinically compatible illness that is laboratory confirmed. • Not a case: A case that has been investigated and subsequently found not to meet the case definition.
<p>Laboratory Testing</p>	
	<p>Laboratory confirmation requires negative tests for hepatitis A, B and C and a positive anti-HEV.⁸</p>
<p>Management of Case</p>	
	<p>Investigation¹ Ask about risk factors in the 2-9 weeks before onset of illness, including:</p> <ul style="list-style-type: none"> – a history of travel (including contact with overseas visitors within the incubation period), possible contacts, – consumption of possibly contaminated water, shellfish or other suspect foods (for example, food from other countries). – blood or blood-product transfusions. – Injecting drug use – sexual contacts who have had a similar illness (men who have sex with men may be at higher risk of infection) – exposure to sewage.² <ul style="list-style-type: none"> • Liaise with the environmental health officer of the local territorial authority if food premises are thought to be involved. • Liaise with the Ministry for Primary Industries if a contaminated commercial food source is thought to be involved. <p>Restriction</p> <ul style="list-style-type: none"> • Cases should not attend child care facilities during the infectious period (i.e., for 14 days after onset of symptoms).² • Cases must not provide personal care to individuals in child care or health care settings or handle food for others during the infectious period and for 14 days after the onset of symptoms.² <p>Counselling</p> <ul style="list-style-type: none"> • The case or relevant caregiver should be informed about the nature of the infection and the mode of transmission. • A fact sheet is available:

	<p>K:\CFS\Quality\ApprovedDocuments\ProtectionTeam\FactSheets\HepatitisEFactSheet.pdf</p> <ul style="list-style-type: none"> • Education should include information about hygienic practices, particularly hand-washing before preparing food, eating and after going to the toilet.² <p>Adult cases should also be advised, during the infectious period:²</p> <ul style="list-style-type: none"> – not to donate blood – not to prepare or handle food to be consumed by other people – not to share drug paraphernalia – to practise safe sex – to advise health care workers of his/her infection. <p>Treatment Treatment is supportive only, particularly the maintenance of hydration.</p>
--	--

Management of Contacts

	<p>Consult with ESR and an infectious diseases physician.¹</p> <p>Identification of Contacts Immediate family, household members and sexual partners should be considered at risk.³ Contacts are not normally excluded from child-care, school or work.³</p> <p>Surveillance If the case has worked as a food handler, child care worker or health care worker, surveillance for further cases in the work place should be carried out.</p> <p>Investigation Laboratory screening of asymptomatic contacts is not usually indicated. Consider blood tests for any contact with compatible symptoms.¹</p> <p>Prophylaxis None in New Zealand. (Immunoglobulin prepared from donors in non-endemic countries will not prevent infection or disease.)</p> <p>Control of environment and disinfection</p> <ul style="list-style-type: none"> • In early childhood services or other institutional situations, ensure satisfactory facilities and practices regarding hand cleaning, nappy changing, toilet use and toilet training, preparation and handling of food, and cleaning of sleeping areas, toys and other surfaces.¹ • Food premises, child care centres or health care facilities where a case has worked while potentially infective should be requested to complete a clean up in accordance with the MoH Communicable Diseases Manual 2012, Appendix 1: Disinfection⁹ http://www.health.govt.nz/system/files/documents/publications/cd-manual-appendices-may2012.pdf <p>Counselling</p> <ul style="list-style-type: none"> • Advise contacts about the nature of the infection and the mode of transmission. A fact sheet is available: K:\CFS\Quality\ApprovedDocuments\ProtectionTeam\FactSheets\HepatitisEFactSheet.pdf • Education should include information about hygienic practices, particularly hand-washing before preparing food, eating and after going to the toilet.
--	---

Other Control Measures

	<p>Identification of source¹</p> <ul style="list-style-type: none"> • Check for other cases in the community. • Investigate potential food and water sources of infection if there is a cluster of cases or an apparent epidemiological link. • If indicated, check water supply for contaminants and for compliance with the latest New Zealand drinking-water standards (Ministry of Health 2008). Liaise with the local territorial authority staff to investigate potential water sources of infection.
--	--

	<p>Disinfection¹</p> <ul style="list-style-type: none"> • Clean and disinfect surfaces and articles soiled with faeces. For further details, refer to MoH Communicable Diseases Manual 2012, Appendix 1: Disinfection⁹ http://www.health.govt.nz/system/files/documents/publications/cd-manual-appendices-may2012.pdf • In areas with modern and adequate sewage disposal systems, faeces and other bodily fluids or secretions can be discharged into sewers. <p>Health education¹</p> <ul style="list-style-type: none"> • If there is a cluster of cases, consider a media release and direct communication with local parents, early childhood services, schools and health professionals to encourage early reporting of symptoms. • In communications with doctors, include recommendations regarding diagnosis, treatment and infection control. • In early childhood services or other institutional situations, ensure that satisfactory facilities and practices are in place for hand cleaning, nappy changing, toilet use and training, food preparation and handling, and cleaning of sleeping areas, toys and other surfaces.
<p>Reporting</p>	
	<ul style="list-style-type: none"> • Ensure complete case information is entered on EpiSurv • If a cluster of cases occurs, contact the Communicable Diseases Team at the Ministry of Health, and outbreak liaison staff at ESR, and complete the Outbreak Report Form • If an outbreak, write report for Outbreak Report File: K:\CFS\ProtectionTeam\FinalDocs\notifiableconditions\Hepatitis E\Outbreaks • File.
<p>References</p>	
	<ol style="list-style-type: none"> 1. New Zealand MoH Communicable Diseases Control Manual 2012, Hepatitis (viral) - not otherwise specified, http://www.health.govt.nz/system/files/documents/publications/cd-manual-hepatitis-viral-may2012.pdf 2. NSW Health, infectious Diseases, Public Health Unit guidelines, Hepatitis E, http://www.health.nsw.gov.au/Infectious/factsheets/Pages/hepatitis_e.aspx 3. UptoDate, hepatitis E virus infection, https://www.uptodate.com/contents/hepatitis-e-virus-infection?source=search_result&search=hepatitis%20e%20virus%20infection&selectedTitle=1-75 4. WHO, Media Centre, Fact sheets, Hepatitis E, http://www.who.int/mediacentre/factsheets/fs280/en/ 5. Dalton HR¹, Fellows HJ, Gane EJ, et al. Hepatitis E in New Zealand. <i>J Gastroenterol Hepatol.</i> 2007 Aug;22(8):1236-40. Epub 2007 Apr 19. https://www.ncbi.nlm.nih.gov/pubmed/17489963 6. ESR, hepatitis (viral) – not otherwise specified. Notifiable and other diseases summaries, Annual reports 2011-2016. https://surv.esr.cri.nz/surveillance/annual_surveillance.php 7. Health Victoria, Public Health, Infectious Diseases, Hepatitis E, https://www2.health.vic.gov.au/public-health/infectious-diseases/disease-information-advice/hepatitis-e 8. ESR, EpiSurv Support, All CRF, All_CRF_Instr. Instr_HepatitisBCNOS.pdf https://episurvsupport.esr.cri.nz/Case%20Report%20Forms/Forms/AllItems.aspx 9. New Zealand MoH Communicable Diseases Control Manual 2012, Appendices, http://www.health.govt.nz/system/files/documents/publications/cd-manual-appendices-may2012.pdf