

**Legislative Council Panel on Health Services and
Panel on Food Safety and Environmental Hygiene**

**Follow-up Actions on Emerging Cases of Human Infection of
Rat Hepatitis E Virus and the Territory-wide Rodent Control Work**

Purpose

This paper sets out the latest situation of rat hepatitis E virus (“HEV”), and the follow-up work in response to emerging cases of human infection of rat HEV and the territory-wide cleaning work taken by the Government to prevent and control rodent.

Background

2. Hepatitis E is a liver disease caused by the HEV. High-risk individuals such as elderly with major underlying illnesses (especially transplant patients), pregnant women, people with chronic liver diseases and glucose-6-phosphate dehydrogenase (“G6PD”) deficiency may develop severe illness when having HEV infection. Therefore, they should be more vigilant of personal, food and environmental hygiene.

3. The usual HEV causing human infection is mainly transmitted through the faecal-oral route, for example, due to faecal contamination of drinking water. Besides, since HEV has been detected in pig livers, foodborne transmission of HEV can result from ingestion of undercooked meat or meat products produced from infected animals. As for rat HEV, there is no scientific information to determine the exact mode of transmission to human at the moment. Possible routes of transmission include ingestion of food or water contaminated by rodents or their excreta, exposure to environments or objects contaminated by rodents or their excreta and direct contact with rodents or their excreta.

4. A total of five cases of human infection of rat HEV have been recorded by the Department of Health (“DH”) since 2018. The five cases involved four males and one female, aged between 56 and 81. Patients in all cases had underlying illnesses. Among them, a 74-year-old patient was admitted to Tuen Mun Hospital due to underlying illnesses on 28 April 2019 and passed away on 4 May due to an unrelated cause. The remaining four cases were in stable condition. Investigations by the DH revealed that they were all sporadic cases with no epidemiological linkage, and the patients’ home contacts have remained asymptomatic.

5. According to the DH’s epidemiological investigations, the two patients identified in 2018 resided in different areas of Wong Tai Sin, while the three patients identified in May this year resided in Kowloon City, Southern District and Tuen Mun, respectively. One patient had travelled to Taiwan and Korea during the incubation period while the other four patients had no travel history during the incubation period. All five patients did not recall having direct contact with rodents or their excreta. One of the patients reported seeing suspected rodent excreta in his residence while the other one had seen rodents in the vicinity of a restaurant he frequently visited. The DH’s epidemiological investigations have yet to determine the source and the route of infection.

Prevention and Control Measures

6. Viral hepatitis (including hepatitis E) is a statutorily notifiable disease in Hong Kong. All medical practitioners are required to report suspected or confirmed cases of hepatitis E to the DH for investigations and follow-up actions. Upon notification of hepatitis E cases, the DH would immediately commence epidemiological investigations and determine the source and route of infection. The DH has also been closely monitoring the global situation of hepatitis E.

7. The DH has all along been disseminating health information, including preventive measures of hepatitis E, to members of the public and relevant stakeholders through different channels, including the website of the Centre for Health Protection (“CHP”) of the DH. The DH has also published related articles on hepatitis E in its bi-weekly online publication “*Communicable Diseases Watch*” from time to time in order to provide healthcare professionals and members of the public with up-to-date information on hepatitis E. Meanwhile, the DH has also produced a variety of health education materials including pamphlets, posters, booklets and videos to raise public awareness in maintaining good personal, food and environmental hygiene.

Latest Measures

Enhanced Public Health Surveillance

8. The DH has been working in close collaboration with the Hospital Authority and universities in conducting laboratory tests of infectious diseases. Since November 2018, the DH has enhanced the surveillance of HEV by conducting further testing on rat HEV in the samples collected from HEV patients, in addition to regular testing on human HEV types. The DH will also continue to closely monitor the local situation of human infection with rat HEV, and improve the method for detecting rat HEV, in collaboration with the Department of Microbiology of The University of Hong Kong (“HKU”).

Epidemiological Investigations and Control Measures

9. For all cases of human infection with rat HEV, the DH would inform the Pest Control Advisory Section of the Food and Environmental Hygiene Department (“FEHD”) to carry out rodent survey and control measures as appropriate. The DH will also continue to work with the Department of Microbiology of the HKU to conduct further analysis on samples collected from patients with rat HEV infection.

Risk communication

10. The DH issued a press release on 14 May 2019 to inform members of the public the situation of human infection with rat HEV and the preventive measures, and remind them to maintain good personal, food and environmental hygiene. Furthermore, the DH issued a letter to all local doctors and hospitals on 17 May to inform them of relevant situation and preventive measures and remind them to pay special attention to immunocompromised persons with liver function derangement.

Liaison with Other Health Authorities

11. In response to cases of human infection of rat HEV in Hong Kong, the DH has communicated with the World Health Organization (“WHO”) regarding the global situation of human infection with rat HEV. According to the WHO’s preliminary reply, no acute case of human infection with rat

HEV has been reported in Europe at the moment. Separately, the presence of rat HEV in rat populations in Europe has been demonstrated in research. The DH will continue to closely monitor the global situation of human infection with rat HEV.

Government's Anti-rodent Work

12. The Government has attached great importance to anti-rodent work and has launched a three-month territory-wide cleaning campaign on 20 May 2019, targeting areas such as rear lanes, housing estates, food premises and public markets. Cleaning work and enhanced enforcement actions have been carried out and public education and publicity in this regard have also been strengthened. All departments will remain vigilant and work together for effective rodent prevention and control.

13. The Highways Department has stepped up its inspection work at rear lanes with serious rodent problems in all districts, carried out instant repairs to damaged road surface or nullahs, improved road conditions and filled rat holes. The Housing Department has also been examining whether the rodent-proof devices installed in over 180 public housing estates function well, and will repair, reinforce or add devices at once if needed to eliminate rodents and their harbourage points. The FEHD will enhance street cleaning, carry out publicity and public education work on rodent prevention and control, and step up enforcement actions against illegal dumping of waste by food premises. All District Offices of the Home Affairs Department and FEHD will also strengthen liaison with property management companies, District Councils ("DCs") and local communities in order to raise public awareness of the importance of maintaining personal and environmental hygiene in preventing rodent infestation in private places, including people's homes and housing estates, through carrying out publicity at the district level.

14. The Pest Control Steering Committee held a special meeting on 17 May 2019 to discuss strategies on enhanced cleansing and rodent control work and will hold another meeting in mid-June to review the effectiveness of departments' work.

15. Apart from government efforts, the collaboration between the public and private sectors (food premises in particular) to eliminate the conditions for rodents to survive at source is of paramount importance to effective prevention of rodent infestation. The Government will strengthen its collaboration with various DCs and urge the public to maintain environment and personal hygiene constantly and to actively participate in rodent prevention and control work. The Government will consolidate the

experience it has gained from this three-month territory-wide cleaning campaign, and continue with its on-going rodent prevention and control work.

Way Forward

16. The Government will stay vigilant, strengthen surveillance and keep itself abreast with the latest development of the hepatitis E disease. In addition to the ongoing risk assessments, the Government will monitor the effectiveness of the contingency plan and step up public health measures as appropriate. We will also enhance publicity work to keep the public informed and alert of the latest situation so that they can take suitable precautions and response measures where necessary. Besides, the Government will step up rodent prevention and control work.

Advice Sought

17. Members are invited to note the content of this paper.

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