

## **LYMPHOCYtic CHORIOMENGITIS VIRUS (LCMV) IN WILD HOUSE MICE IN UTRECHT, THE NETHERLANDS**

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**Abstract** The house mouse (*Mus musculus*) can carry infectious zoonotic agents, including lymphocytic choriomeningitis virus (LCMV). Human LCMV infections are mostly asymptomatic but can cause aseptic meningitis and neurologic birth defects. Serological prevalence in the US is 2-5% in humans and 5% in rodents, and in the UK 25% in rodents. The prevalence of LCMV in mice and humans in the Netherlands is unknown. The aim of this study was to estimate the prevalence of LCMV in wild house mice and the possible exposure of humans to LCMV in The Netherlands. Trapped dead mice were collected by pest control services in and around the city of Utrecht. On autopsy, the organs were collected and stored in the freezer at -80°C. Spleen samples were examined for the presence of LCMV by RT-qPCR. A single step reverse transcriptase quantitative PCR assay was carried out using the TaqMan Fast Virus 1-Step Master Mix and LCMV specific primers and probe. In total, 266 mice were collected between March 2016 and July 2019 and were analysed by PCR. Just over half (56%) of house mice were male. At most, 30 mice were trapped at one postal code. Overall, no (0%) mice were positive for LCMV. In conclusion, house mice in and around the city of Utrecht do not pose a risk to transmit LCMV to humans. Whether house mice in other regions in the Netherlands or other rodents carry LCMV is still unknown. Mice could carry other zoonotic viruses. New research is ongoing (microarrays) to investigate whether cowpox virus, hantavirus or parechovirus B are carried by the mice.

**Key words** Lymphocytic choriomeningitis virus, *Mus musculus*, house mouse, zoonoses