Pet Rodents and Fatal Lymphocytic Choriomeningitis in Transplant Patients

[Announcer] This podcast is presented by the Centers for Disease Control and Prevention. CDC — safer, healthier people.

[Dan Rutz] I'm Dan Rutz, speaking today with Dr. Brian Amman, a mammalogist with the Special Pathogens Branch here at CDC. Dr. Amman co-authored an article in the May 2007 issue of *EID* on the subject of lymphocytic choriomeningitis virus, or LCMV, contracted by recipients of organ donations. Brian, give us a description, please, of LCMV.

[Brian Amman] LCMV is a rodentborne arenavirus that's endemic in the common house mouse. It rarely poses a threat to healthy people, but in immunocompromised people or pregnant women, it can cause serious infections or death. LCMV infection during pregnancy can result in severe birth defects or even spontaneous abortion. Persons are usually infected by direct contact with the secretions or excretions of infected rodents.

[Dan Rutz] So this can be a serious matter. In the case your article describes, four recipients of organ transplants from a single donor developed LCMV, and three of them died. The virus was traced back to an infected pet hamster owned by the daughter of the organ donor. How common a problem in pet rodents is LCMV?

[Brian Amman] LCMV isn't very common in pet rodents at all. The primary reservoir for LCMV is the house mouse. This house mouse is so widespread that elimination of the mouse and the virus is impractical. Contact between wild mice and pet rodents is the most likely cause of transmission to pet rodent populations. In this case, the virus was traced back to a distribution facility in Ohio. The index hamster was housed in this facility briefly before being shipped to a retail pet store in Rhode Island and subsequently purchased by the organ donor's family. We know the virus came from Ohio because nucleotide sequences from the transplant patients, the index hamster, and other hamsters collected in Ohio were almost identical. It is extremely unlikely that two different virus genotypes from such distant localities would be that similar.

[Dan Rutz] Brian, let me ask you about testing for LCMV. How routine is it, or is it at all?

[Brian Amman] Laboratory colonies are routinely tested for LCMV because it poses a hazard to laboratory employees and can have negative effects on experiments as well as rodent colony health. Mice suffer few outward consequences when infected, because they are the natural reservoir, but hamsters can experience everything from no symptoms to severe illness and death. More important, hamsters and mice can become chronically infected and shed the virus for many months, continually exposing uninfected individuals to the virus.

[Dan Rutz] What should our listeners do to help prevent transmission of this infection?

[Brian Amman] LCMV poses the greatest threat to pregnant women and people with immune system problems, so they should avoid contact with the rodents altogether, including pets, and should stay away from rodent-infested areas. Efforts should be made to keep house mice out of homes and businesses to reduce the potential for contact. Also, pet owners should be educated about potential for disease transmission in any pet, including pet rodents, so they can take precautions as necessary. Additional information about LCMV is available on the CDC web site at www.cdc.gov.

[Dan Rutz] Brian, we thank you very much for your comments and appreciate your important perspective on these findings.

Our discussion with Dr. Amman was prompted by an article on lymphocytic choriomeningitis virus in pet rodents in the May 2007 issue of *Emerging Infectious Diseases*. This article, and others on emerging bacterial and viral diseases, is online at www.cdc.gov/eid. You can submit your comments on this interview to eideditor@cdc.gov. Eideditor, one word, at cdc.gov.

For *Emerging Infectious Diseases*, I'm Dan Rutz.

[Announcer] To access the most accurate and relevant health information that affects you, your family and your community, please visit www.cdc.gov.