Lymphocytic Choriomeningitis Virus (LCMV) and Pregnancy

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about whether exposure to LCMV may increase the risk for birth defects above that background risk. This information should not take the place of medical care and advice from your healthcare professional.

What is Lymphocytic Choriomeningitis Virus (LCMV)?

LCMV is a virus that can cause flu-like symptoms including fever, muscle aches, fatigue, nausea and vomiting. Some people will develop meningitis (inflammation of the spinal cord) or encephalitis (inflammation of the brain) or both. Some people will not have any symptoms at all. The onset of flu-like symptoms starts 1-2 weeks after being exposed to the virus. These symptoms can last as long as a week. If the infection goes on to affect the spinal cord or brain, the entire length of infection can be up to 3 weeks.

LCMV is not thought to be a common virus in humans. The Centers for Disease Control and Prevention (CDC) estimates that 2% to 5% of adults have had an LCMV infection. Pet rodents such as mice, guinea pigs, and hamsters can carry the virus if wild rodents infect them. Wild rodents, pet rodents, and rodents in laboratories have all been found to carry LCMV, but the most common host is the house mouse. Since LCMV infection was first identified in 1933, more than 50 babies have been reported with LCMV infection worldwide.

How could I get LCMV?

Infected rodents shed the virus in their nasal secretions, saliva, milk, semen, urine, and feces. Physical contact through broken skin, eyes or nose or accidental ingestion of these rodent body fluids may cause an LCMV infection. Sweeping rodent droppings may cause the virus to become airborne and increase the chances of getting an infection. The virus can also be passed through rodent bites. Human infection with this virus is more common in the fall when rodents move indoors into homes. Passing the LCMV infection from person to person has not been seen except in the case of mother to baby during pregnancy or delivery.

How will I know if I have LCMV?

You may have no symptoms and still have LCMV infection. However, you may have some of the following: mild fever, fatigue, lack of appetite, muscle aches, headache, nausea, and vomiting. After a few days of recovery, you may have symptoms of meningitis such as fever, headache and a stiff neck, or symptoms of encephalitis such as drowsiness, confusion, sensory disturbances, and/or motor problems, such as paralysis. If you have come in contact with a rodent, and/or have a fever or other symptoms of LCMV, you should contact your health care provider. A blood test can be done to determine if you have an LCMV infection or if you had an infection in the past. While there is no specific treatment for LCMV, appropriate treatment of the symptoms (such as fever) is recommended.

If I'm in my first trimester, will an LCMV infection cause a miscarriage?

A woman who gets an LCMV infection during her pregnancy may have an increased chance for miscarriage. Information regarding LCMV and miscarriage is very limited and the exact risks for miscarriage are unknown.
How does LCMV affect the developing baby?

If a woman becomes infected with LCMV during her pregnancy, the virus may or may not also affect the developing baby. A small number of children have been reported with LCMV infection at birth (also known as congenital LCMV). Infants with congenital LCMV may have problems with brain and eye development, as well as learning difficulties. The most common birth defects are hydrocephalus (fluid in the brain) and chorioretinitis (eye problems which can lead to vision loss). It is not known whether the severe cases of congenital LCMV reported are typical presentation or if they are on the severe end of the spectrum.

It is not known how common LCMV infection is or how often congenital LCMV occurs. It is unknown how many women have had LCMV during pregnancy and had healthy babies. Current data suggest that the cases of LCMV infection and congenital LCMV are under-reported. Many cases of LCMV go undetected because the symptoms are like the flu. Because of the limited amount of information about LCMV in humans, the exact risks for LCMV related birth defects are unknown.

Having had a LCMV infection in the past does not increase the risk for congenital LCMV in a current or future pregnancy.

Can LCMV infection in the baby be detected during pregnancy?

Certain findings on ultrasound, such as enlarged areas of the brain (ventriculomegaly), excess fluid in the skull or bleeding around the brain (hydrocephaly, intracranial hemorrhage), or buildup of fluid in the body tissues (hydrops), can indicate a possible LCMV infection. The mother’s blood can also be tested for an LCMV infection.

How can I prevent getting an LCMV infection?

The risk of LCMV infection is low. However, pregnant women can take the following precautions to lower the risk of LCMV infection:

- Avoid direct physical contact with wild or pet rodents.
- If possible, have someone else care for pet rodents and clean their cages.
- If you do come in contact with a rodent or its urine, droppings, or nesting materials, wash hands very well with soap and water afterwards.
- If you think there are wild rodents in your home, have a professional pest control company remove them.
- Avoid vacuuming or sweeping rodent urine, droppings, or nesting materials.

If I have confirmed that I am infected with LCMV, can I still breastfeed my baby?

There is no evidence to suggest that LCMV can be transmitted to your baby through breast milk, but it is important to tell your pediatrician of your infection, to rid your home of wild rodents if they are present, and to wash your hands well with soap and water before holding your baby. Be sure to discuss all your options for breastfeeding with your healthcare provider.

May 2014
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References Available By Request

If you have questions about the information on this fact sheet or other exposures during pregnancy, call OTIS at 1-866-626-6847.