



For more information regarding OTIS or a Teratology Information Service in your area, call OTIS Information at (866) 626-6847 or visit us online at: www.OTISpregnancy.org.

ORGANIZATION
OF TERATOLOGY
INFORMATION
SERVICES

Fifth Disease and Pregnancy

The information below will help you determine if your prenatal exposure to fifth disease represents an increased fetal risk. With every pregnancy, all women have a 3 to 5 percent chance to have a baby with a birth defect.

Fifth Disease

What is fifth disease?

Fifth disease, also called erythema infectiosum, is a viral illness caused by human parvovirus B19. It occurs most commonly in children ages 4 to 14. The infection often starts with mild fever, sore throat, and flu-like symptoms. Children also develop a bright red rash on the face that looks like “slapped cheeks”. Along with the facial rash, a lacy or bumpy rash may appear on the body, arms, and legs. Joint aches occur more commonly in adults than children. Rash and joint symptoms may develop several weeks after infection. As many as 20 to 30 percent of adults infected with parvovirus B19 have no symptoms.

Is fifth disease contagious?

Yes, fifth disease is contagious. The virus is spread through contact with secretions of the nose and lungs, and through contact with blood. The incubation period (the time between infection and the development of the illness) is between 4 and 21 days.

Individuals with fifth disease are most infectious before the onset of symptoms and are unlikely to be contagious after the development of the rash and other symptoms. This makes efforts to prevent exposure very difficult.

I don't remember ever having fifth disease. Can I develop the infection?

Because fifth disease is a mild illness, many adults may not be aware that they have had it, especially since many people do not have symptoms. About 50 percent of adults

have had the infection, have antibodies to the virus, and are immune. These antibodies prevent future infection. A blood test can be done to look for the antibodies and tell if you have had a recent infection or are not immune.

I don't think I've had fifth disease and have been recently exposed at work. Should I continue to go to work?

You should ask your doctor to obtain a blood test for antibodies to parvovirus B19 to see if you are immune to fifth disease. Studies show that many women in occupations such as daycare supervision and teaching have antibodies to fifth disease and thus are not at risk for infection. However, individuals who do not have the antibodies are susceptible and have a 20 to 30 percent risk that you will be infected following exposure in a school or daycare setting.

You should talk to your doctor about whether you should continue working. If you continue to work, there are ways to lessen your risk of infection from other people, including good hand washing, not sharing food or drinks, and other hygiene measures.

My children had fifth disease about 3 weeks ago and now my joints are sore. I am pregnant. Could I have fifth disease?

Yes, it is possible that you have fifth disease. However, there are many other causes of joint pain. Your doctor may consider ordering a blood test to check for antibodies to fifth disease. If you are not immune, you have a 50 percent risk of becoming infected from contact with an infected family member.

I am 14 weeks pregnant and testing showed that I recently had fifth disease. Is my pregnancy at increased risk of problems because of the infection?

Many studies show that the majority of women who become infected with fifth disease deliver healthy babies, without birth defects, prematurity, or other problems. In a small number of cases, fetal loss (miscarriage or stillbirth) can occur. The greatest risk for fetal loss occurs at or before 20 weeks from conception. During times when communities have “outbreaks” of fifth disease the rate of fetal loss is approximately 5 to 15 percent. The usual rate for fetal loss is only 1 to 1.5 percent when a pregnant woman tests positive for fifth disease during her pregnancy.

Fetal infection with fifth disease can lead to inflammation of the heart (myocarditis) and can damage the bone marrow so that red blood cells cannot be made. This in turn can lead to anemia. If the heart damage or anemia is severe, hydrops (excess fluid in fetal tissues) can occur and may lead to fetal death. Sometimes, the hydrops disappears and most of these babies will be normal. Rarely, a baby is born unable to make red blood cells and will need transfusions.

I had fifth disease when I was 10 weeks pregnant. Are there any tests I can have done to see if my baby is OK?

An ultrasound (sound wave pictures of the fetus) can tell whether the fetus has hydrops and can look at the amount of amniotic fluid around the baby. A series of ultrasounds for several months after the maternal infection may be helpful. Other methods for detecting fetal problems are also being explored.

Are there any treatments available?

At this time there are no vaccines or medications available to prevent or treat maternal fifth disease. Frequent ultrasounds to detect hydrops are recommended when a mother tests positive to fifth disease. When a fetus develops severe anemia and hydrops, fetal blood transfusions have been done, but the success rate is very low.

My dog has a parvovirus infection. Can I catch it from him?

No. There are many types of parvoviruses. Each type is species-specific, meaning that dog (canine) parvoviruses infect only dogs, cat (feline) parvoviruses infect only cats, and human parvoviruses infect only humans.

January 2002
Copyright by OTIS,
Reproduced by permission.



ORGANIZATION
OF TERATOLOGY
INFORMATION
SERVICES

References:

- Adams, D.M., *et al.* Parvovirus B19: How much should you worry? *Cont Peds* 1996; 13(4): 85-96.
- Anderson, L.G., Human parvovirus B19. *Pediatric Annuals* 1990; 19(9): 509-513.
- Brown, K.E., *et al.* Congenital anemia after transplacental B19 parvovirus infection. *Lancet* 1994; 343 (8902): 895-896.
- Committee on Infectious Disease, American Academy of Pediatrics: Parvovirus B 19, in 1994 Red Book: Report of the Committee on Infectious Disease, 23rd edition, pp 345-347.
- Fairley, C.K., *et al.* Observational study of effect of intrauterine transfusions on outcome of fetal hydrops after parvovirus B19 infection. *Lancet* 1995; 346(8986): 1335-1337.
- Gillespie, S.M., *et al.* Occupational risk of human parvovirus B19 infection for school and daycare personnel during an outbreak of erythema infectiosum. *JAMA* 1990; 263:2061-2065.
- Ismail, K.M. Etiology and outcome of hydrops fetalis. *J Matern Fetal med.* 2001; 10 (3): 175-181.
- Jordan, E.K., *et al.* Fetal damage caused by parvoviral infections. *Reproductive Toxicology* 1994; 8(2): 161-189.
- Jordan, J.A., Placental Cellular Immune Response in Women Infected with Human Parvovirus B19 during Pregnancy. *Clin. Diagn. Lab. Immunol.* 2001; 8 (2): 288-292.
- Kailasam, C. Congenital parvovirus B19 infection; experience of a recent epidemic. *Fetal Diagn Ther.* 2001; 16 (1): 18-22.
- Koga, M. Human parvovirus B19 in cord blood of premature infants. *Am J Perinatol.* 2001; 18 (5): 237-240.
- Sailer, D.N., *et al.* Maternal serum biochemical markers in pregnancies with fetal parvovirus B19 infection. *Prenat Diagn* 1993; 12(6): 467-741.
- Soulie, J.C., Cardiac involvement in fetal parvovirus B19 infection. *Pathol Biol Paris* 1995; 43(5): 416-419.
- Torok, T.J., Human parvovirus B19, in Infectious Disease of the Fetus & Newborn Infant, 4th edition, 1995; pp 668-702.