



New Zealand
Maternal
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Network

Toxoplasmosis

What Is Toxoplasmosis ?

Toxoplasmosis is an infection caused by a one-celled parasite called *Toxoplasma gondii*. When a pregnant woman gets Toxoplasmosis, she can pass the infection on to her fetus.

Many infected babies develop serious complications, including visual and learning problems. A woman can get toxoplasmosis by eating raw or undercooked meat or by contact with cat faeces.

Fortunately, a pregnant woman can follow some simple precautions that can reduce her chances of becoming infected. Because more than half of all pregnancies are unplanned, all women who could become pregnant should follow the precautions of eating only well cooked meat and wearing gloves when gardening and changing cat litter boxes.

How Can A Woman Prevent Toxoplasmosis During Pregnancy?

Cat faeces and raw or undercooked meat are the most common sources of this infection. A pregnant woman can help prevent Toxoplasmosis by avoiding known sources of infection. She should:

- Not eat raw or undercooked meat, especially lamb or pork. She should cook meat to an internal temperature of 70° C; the meat should not look pink, and the juices should be clear. Freezing meat for several days before cooking helps reduce the risk of infection.
- Wash her hands immediately with soap and water after handling raw meat. She should never touch her eyes, nose or mouth with potentially contaminated hands.
- Clean cutting boards, work surfaces and utensils with hot, soapy water after contact with raw meat or unwashed fruits and vegetables (which can be contaminated by soil containing cat faeces).

- Peel or thoroughly wash all raw fruits and vegetables before eating.
- Not empty or clean the cat's litter box. Someone else should do this. An infected cat (which usually appears healthy) can shed the parasite in its faeces. The litter box should be emptied every day, because the parasite found in the cat's faeces does not become infectious for 24 hours. If no body else can change the litter box, a pregnant woman should wear gloves and wash her hands thoroughly after emptying.
- Not feed the cat raw or undercooked meats.
- Keep cats indoors to prevent them from hunting birds or rodents (which can be infected with the parasite and pass it on to the cat).
- Not get a new cat during pregnancy. She should not handle stray cats, especially kittens (which are more likely to be infected than older cats).
- Wear gloves when gardening soil may contain the parasite from cats. She should not touch her mouth, eyes and nose, and wash her hands thoroughly when finished. Also keep gloves away from food.
- Avoid children's sandboxes; cats may use them as litter boxes.



How Common Is Toxoplasmosis?

Toxoplasmosis is one of the most common infections in the world. It is more common in some countries than others. Most women have no symptoms so they may not know they are infected. A small number of infected individuals develop symptoms that resemble the flu or infectious mononucleosis, including swollen glands, fatigue, muscle aches, malaise and fever. These symptoms may last for a month or longer.

Active infection normally occurs only once in a lifetime, followed by lifelong immunity (protection). Although the parasite remains in the body indefinitely, it is usually harmless and inactive unless the immune system is not working properly.

Generally, women who develop immunity to the infection before pregnancy are not in danger of transmitting it to their babies. However, some experts recommend that women postpone pregnancy for 6 months after getting toxoplasmosis.

Can A Woman Find Out If She Is Immune?

The majority of women have never had Toxoplasmosis and are susceptible to it. Blood tests can show whether a woman has had Toxoplasmosis. However, these tests are not routinely offered during pregnancy unless a woman's health care provider suspects she might have the infection. If the tests show that a pregnant woman has had Toxoplasmosis, additional tests may be needed to find out if the infection is a recent one (which could pose a risk to the fetus) or an old one (which does not pose a risk).

A woman planning to become pregnant can discuss with her LMC whether she should be tested before pregnancy. If blood tests show that a woman has not been infected, she should take precautions to prevent the infection during pregnancy, as should all women who have not been tested.

What Symptoms Does Toxoplasmosis Cause In The Baby?

Most newborns with Toxoplasmosis show no obvious symptoms. However, about 1 in 10 infected babies has a severe infection evident at birth. These newborns often have eye infections, an enlarged liver and spleen, jaundice (yellowing of the skin and eyes) and pneumonia. Some die within a few days of birth.

Those who survive sometimes develop mental retardation, impaired eyesight, cerebral palsy, seizures, hearing loss and other problems.

Without treatment, up to 85 percent of infected babies who appear normal at birth can develop problems months to years later. These include eye infections that may affect sight, learning disabilities and hearing loss. Toxoplasmosis during pregnancy also can cause preterm delivery or stillbirth.



How Is Toxoplasmosis Diagnosed And Treated During Pregnancy?

A health care provider who suspects that a pregnant woman has an active Toxoplasma infection may recommend blood tests. These tests require expert interpretation.

If the laboratory confirms that a pregnant woman has an active infection, providers usually recommend treatment with one or more medications. If the woman is in her first or early in her second trimester of pregnancy, she may be treated with an antibiotic called Spiramycin. Some studies suggest that Spiramycin can reduce the likelihood of the fetus becoming infected by about 60 percent .

If the woman has a confirmed infection and is at 18 weeks gestation or later, her provider may recommend an amniocentesis to help determine if the fetus is infected. If the provider thinks the fetus is infected, she will treat the mother with the drugs Pyrimethamine and Sulfadiazine. [Pyrimethamine is not recommended before 18 weeks of pregnancy because it may increase the risk of birth defects]. This approach appears to reduce the frequency and severity of the newborn's symptoms.

How Likely Is An Infected Pregnant Woman To Pass Toxoplasmosis On To Her Baby?

A woman who gets Toxoplasmosis during pregnancy has about a 30 percent chance of passing the infection on to her fetus. However, the risk and severity of the baby's infection depend upon when in pregnancy the infection occurs.

Studies suggest that when mothers are infected in the first trimester, about 15 percent of fetuses become infected, as compared to about 30 percent in the second trimester and

about 60 percent in the third. However, the earlier in pregnancy the infection occurs, the more serious the baby's symptoms tend to be.

How Are Infected Newborns Treated?

Providers treat infected babies with Pyrimethamine and Sulfadiazine. These drugs are generally continued throughout the first year of life and, in some cases, even longer.

A recent study by the National Collaborative Chicago-Based Toxoplasmosis Study Group found that this treatment is often highly effective, even for babies with severe symptoms. The study found that about 72 percent of moderately-to-severely affected babies who received this treatment had normal intelligence and motor function at early adolescence, and none developed hearing loss. All treated infants who had mild or no symptoms at birth had normal intelligence and motor function, and none developed hearing loss.

Unfortunately, this and other studies found that eye infections sometimes recur in childhood. Children who are retreated with the two drugs generally do not suffer vision loss. Some treated babies still developed lasting disabilities, possibly because drug treatment may not reverse any brain or eye damage that occurred before birth.

Most infected babies who do not have symptoms at birth miss early treatment. They often are not diagnosed until they develop an eye infection or other problems, sometimes months or years after birth.

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