Toxoplasmosis

In HIV disease, several different infections can cause a variety of conditions that result in cognitive problems. One of these brain diseases is toxoplasmosis, or more specifically Toxoplasma encephalitis. Although about 1 in 5 Americans may be infected with the parasite that causes toxoplasmosis, very few will develop the disease. However, people with weakened immune systems and pregnant women are at a higher risk for this serious illness.

What is toxo?
Toxoplasmosis, or toxo, is the disease caused by the infection with a parasite called Toxoplasma gondii. The disease most often affects the brain, but it can also affect other parts of the body like the lungs or eyes. Toxo is rare in people with healthy immune systems (CD4s above 200) that keep the parasite from causing disease. Toxo usually occurs in people with low CD4 counts below 200, though it most often appears when CD4s go below 50.

While initial infection with the parasite may cause disease in some people, toxo most often results from the reactivation of an earlier infection. However, if severe enough, both initial infection and reactivated disease can cause damage to the brain, eyes or other organs.

How is toxo spread?
The parasite is commonly found in cats and birds as well as in raw, rare and undercooked meats like beef, pork, lamb and venison. House pets are often pointed to as carriers, but domestic cats and birds that are allowed outside and back in are more likely to carry the parasite. You can put yourself at high risk for toxo by handling kitty litter with cat stool or bird droppings, though toxo is not infectious in fresh stool. It takes several days for its eggs to hatch while inside cat or bird feces. You cannot get toxo from person-to-person contact; however, a woman can pass toxo onto her newborn.

What are the symptoms?
The symptoms of initial infection may be similar to those of the flu: body aches, fever and swollen glands. Because of this, many are never aware they’ve been infected with the parasite.

During active disease the most common symptoms are cognitive ones, such as headache, confusion, muscle weakness or lack of coordination, along with fever. If toxo develops without treatment, then changed behavior, seizures, stupor and coma can ensue. Symptoms of eye disease can include blurry vision, pain, redness and tearing up.

How is toxo diagnosed?
A blood test will check for antibodies to toxo, and it should be performed for anyone who recently found out they’re HIV-positive. For those who are negative, the rate of active disease is low. For those who are positive, it does not mean that there’s active disease. However, an MRI or CT scan should be performed to check for lesions on the brain. Your doctor may order a PET or SPECT scanning test to help tell toxo apart from other brain infections. A brain biopsy would be ordered only if the symptoms don’t improve within the first week or two on treatment. Occasionally a biopsy may be used to find toxo in other tissues like the lungs.

How to treat toxo?
Except for pregnant women, healthy people with initial infection may not need to be treated. Their symptoms usually go away within a few weeks or months. However, for severe initial infection, for reactivated disease and for pregnant women and people with weaker immune systems, 3 drugs are normally used for 4 to 6 weeks: pyrimethamine (anti-malarial...
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drug for the toxo), sulfadiazine (an antibiotic) and leucovorin (to replace lost folic acid and reduce possible anemia).

During the first 6 weeks of treatment, anti-convulsants should be given only to people who have a history of seizures. They shouldn’t be routinely given to everyone.

Some people find it difficult to take the many pills each day. Others may be able to take clindamycin if they can’t tolerate sulfadiazine. To help reduce pill burden several other regimens are possible, some of which are based in results from randomized studies while others are suggested from individual cases or small cohorts of people with toxo. Consult an experienced doctor and study data to make informed treatment decisions.

After successful treatment, some people may need to continue taking drugs for “maintenance” therapy to help prevent the toxo from coming back. However, you can stop maintenance therapy once your CD4 count stays above 200 for more than 6 months while on potent HIV therapy.

The condition called IRIS has not been conclusively reported with toxoplasmosis.

How to prevent exposure to toxo?

Safe food handling and better hygiene are two significant ways to help prevent toxo. Wash your meats, fruits and vegetables well before eating. Cook meats to an inside temperature of 165°F. If you eat someone else’s food, make sure all pink is gone inside to ensure it’s been fully cooked.

When handling house cats or pet birds or when gardening, use gloves and/or wash your hands well after each handling. Feed your cats only canned or dried food and refrain from handling stray cats. Consider having someone else clean the litter box or bird cage every day. Keep your pet cat or bird inside at all times to greatly reduce the risk of them becoming carriers of the parasite.

How to prevent disease?

Using drugs to prevent toxo should be started before a person’s CD4 count goes below 100. However, some drugs used to treat PCP are also effective against toxo. And since these drugs are normally started for PCP before CD4s fall below 200, then there may not be a need to start other meds to specifically prevent toxo. Daily dose of TMP-SMX is normally used, though some people cannot tolerate it. In this case, other regimens are available.

Should your CD4 count go above 200 for more than 3 months while on potent HIV therapy, you can safely stop preventive toxo therapy. In studies, people who were on protease inhibitors and stopped preventive therapy at more than 300 CD4s were more likely to prevent toxo from recurring.

Who is at risk for toxo?

Newborns of women who became infected with toxo during pregnancy are at risk for the infection and should be tested at birth. People with weakened immune systems are at risk as well, usually below 200 CD4s but most often at levels below 50. As well, people who handle birds or cats infected with toxo or who eat raw or undercooked meats are at higher risk for the parasite.

Special considerations for pregnant women

If you’re pregnant, you should be screened for toxo. For women who are positive for toxo before pregnancy, it’s unlikely you’ll pass it onto your baby. If you’re negative, then following some prevention guidelines can help keep you from becoming infected.

Although there may be some situations where a particular drug shouldn’t be used, treating toxo in pregnant women is generally the same for non-pregnant adults. However, it’s strongly suggested that an experienced doctor in maternal medicine should be consulted. Newborns of women with toxo should be checked for infection.

What can help to ask my doctor?

• I want to get pregnant. Could toxo be a problem for me?
• How can I protect myself from getting toxo?
• What are the main symptoms disease that I should be aware of?