

# Can cats cause schizophrenia?

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**December 7, 2000 issue of *The Times*--** It told of two American scientists who have the idea that a virus in cat droppings may cause schizophrenia.

These men plan to use a common drug to test their cat-poop concept on some people with schizophrenia. The results aren't in yet, but here's how the thinking goes:

In everyone's DNA are things called "endogenous retroviruses." They're throwbacks to infections our ancestors had and are normally harmless. But if they're activated, they slowly mess up an area of the brain known as the hippocampus. The damage doesn't show up until the brain stops growing in adolescence and it's between then and age 30 when most schizophrenia develops.

What triggers this destructive retrovirus? Psychiatrist Fuller Torrey and virologist Robert Yolken believe the culprit is something called toxoplasmosis. That's a parasite found in the faeces of about 1 percent of house cats.

This bug is killed by most people's immune systems before it causes the disease toxoplasmosis. But a pregnant woman with the parasite can transmit it to her foetus. And here's where it gets interesting. As the resulting baby grows into an adult, the parasite supposedly hides dormant in the person's brain. Then sometime between age 15 and 30, the toxoplasma comes alive, triggers the retrovirus and schizophrenia develops.

This all seemed a bit off-the-wall when Torrey and Yolken first proposed it in 1995. Especially since their hypothesis derived from the following, rather thin evidence: -- One study found that 51 percent of schizophrenics had cats at home when they were kids, compared to only 38 percent of the control group.

-- Then research found that schizophrenics are more likely to have been born in late winter or early spring. So what? That's when cats stay inside more, using their litter boxes. (See also flu virus causes schizophrenia)

-- They noted that schizophrenia was relatively rare in Europe until the late 19th century. And that's when cats became popular as pets.

"Initially, this seemed daft," says *The Times* article. Then along came a 1999 study of 53,000 frozen blood samples. They were taken from pregnant women during the 1950s as part of an anti-polio campaign.

A Harvard researcher tracked down a lot of these women's kids, and singled out about 100 children who developed schizophrenia after childhood.

He found that their mothers had antibodies to toxoplasmosis at a rate 4.5 times greater than in the other mothers and the rate was 7.5 times greater for antibodies to the sexually-transmitted viral disease called herpes simplex 2.

So now Torrey and Yolken plan to treat one test group of schizophrenics with an antibiotic that kills toxoplasma, and another group with an anti-viral drug used against the herpes virus.

Why is this important? *The Times* article says "if it's possible to identify the viruses involved and discover what makes them become so destructive, doctors may be able to treat schizophrenia with anti-viral drugs ... or immune boosters."

# Schizophrenia, Cat Faeces And Undercooked Meat Link - Evidence Grows

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Main Category: Schizophrenia News

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Researchers have found stronger evidence for a link between a parasite in cat faeces and undercooked meat and an increased risk of schizophrenia.

Research published today in Proceedings of the Royal Society B, shows how the invasion or replication of the parasite *Toxoplasma gondii* in rats may be inhibited by using anti-psychotic or mood stabilising drugs.

The researchers tested anti-psychotic and mood stabilising medications used for the treatment of schizophrenia on rats infected with *T. gondii* and found they were as, or more, effective at preventing behavioural alterations as anti-*T. gondii* drugs. This led them to believe that *T. gondii* may have a role in the development of some cases of schizophrenia.

Dr Joanne Webster from Imperial College London, and lead researcher said: "Although we are certainly not saying that exposure to this parasite does definitely lead to the development of schizophrenia, this and previous studies do show there may be a link in a few individuals, providing new clues for how we treat toxoplasmosis and schizophrenia."

Previous epidemiological and neuropathological studies have indicated some cases of schizophrenia may be associated with environmental factors, such as exposure to the parasite *T. gondii*. At the same time several of the medications used to treat schizophrenia have been shown to possess anti-parasitic and in particular anti-*T.gondii* properties. This led the authors to suspect that the anti-psychotic activity of these medications may be due in part to their inhibition of these parasites.

When the rats were given Haloperidol, an anti-psychotic, and Valporic acid, a mood stabiliser, the behavioural symptoms of *T.gondii* were reduced. They found the drugs were able to limit the 'suicidal feline' attraction by which the rats became less aware of the dangers of cats.

Dr Joanne Webster added: "By showing that drugs used to treat schizophrenia affect the parasite *T. gondii*, this does provide further evidence for its role in the development of some cases schizophrenia. It may be that anti-psychotic drugs work partly by parasite inhibition, and this could lead to new medicine and treatment combinations."

The researchers have already begun human clinical trials using anti-*T. gondii* treatments as adjunct therapies for schizophrenia with researchers at Johns Hopkins University.

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