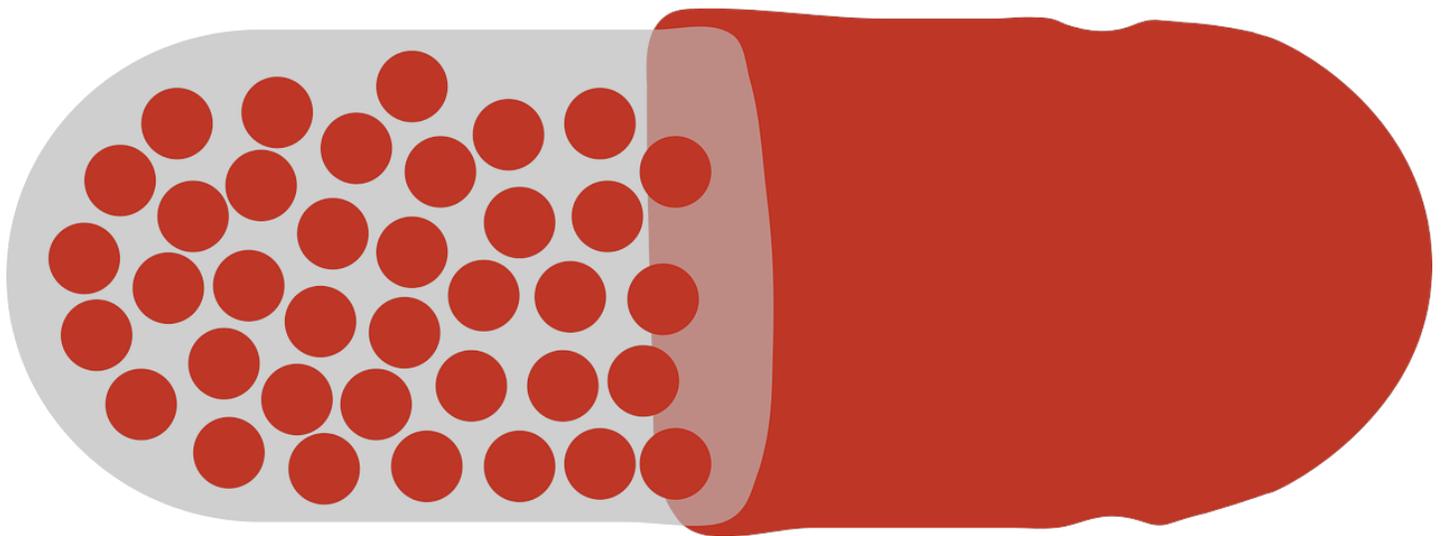


Multiple Sclerosis drug can fight cat borne parasite infections too, find DU scientists

<https://www.biovoicenews.com/multiple-sclerosis-drug-can-fight-cat-borne-parasite-infections-too-find-du-scientists/>

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New Delhi: Scientists in India have identified a drug that they say could help fight a parasite infection that people pick up from cats and that is known to cause eye problems and even behavioral changes in humans. The rate of infection has witnessed a notable increase in India due to the mixing of frozen meat with carcass meat.

Dr Tanmay Majumdar and his colleagues at the Department of Zoology, University of Delhi have shown that a drug called teriflunomide can block a critical biological mechanism required by the parasite called *Toxoplasma gondii* for its own survival and reproduction. Teriflunomide is used to reduce flare-ups in people with relapsing multiple sclerosis (MS).

The work has been published in *Cell Death and Disease (Nature)*, with the impact factor-6. The link to the same can be found [here](#).

Toxoplasma gondii is a globally prevalent protozoan parasite, estimated to infect two million people worldwide, and is also found in cats and other animals. While most people infected with this parasite remain free of any symptoms, a small proportion of patients may develop eye complications and neurological symptoms. Latent toxoplasmosis is associated with immunosuppression, which might explain the increased probability of giving birth to a boy in *Toxoplasma*-infected women and also the extremely high prevalence of toxoplasmosis in mothers of children with Down syndrome.



The team leader of this study, Dr Tanmay Majumdar is the Ramalingaswami Fellow (Scientist D) at the Mucosal Immunocompetent Laboratory in Department of Zoology, University of Delhi.

But multiple studies have also correlated *Toxoplasma gondii* infections in humans with impulsive behavior and outcomes such as an increased risk of being involved in car accidents, road rage, or drug abuse.

Now, the scientists at Delhi University have shown through laboratory studies that teriflunomide, a drug already in use to treat the neuroinflammatory disease called multiple sclerosis, may also help eliminate *Toxoplasma gondii*.

Their studies show that treatment with teriflunomide can induce a biological process called apoptosis, or cellular suicide, in human cells infected by *Toxoplasma gondii*. They have observed the apoptotic effect of teriflunomide in human cells called macrophages and human gut cells infected with *Toxoplasma gondii*. "The biochemical cascade that puts these cells into a suicide mode also ends up killing the parasite inside them," Dr Majumdar said.

Standard therapy for patients with symptoms of *Toxoplasma gondii* infections has involved a combination of the anti-parasitic drugs called primethamine, sulfadiazine, and folinic acid.

However, Dr Majumdar said, concerns about drug-resistant parasites have spurred the search for alternative compounds to treat this infection.

A pan-India study looking for *Toxoplasma gondii* among women of child-bearing age had five years ago estimated the prevalence rate to range from about 9 percent in western India to over 37 percent in southern India.

The study led by researchers at the All India Institute of Medical Sciences, New Delhi, had estimated that between 56,000 to 176,000 children born in India every year are at risk of developing congenital Toxoplasma infections. This novel finding will enlighten of alternative therapy to cure this disease without touching any side effect.