
SCIENCE & HEALTH

Scientists Use Polio Virus to Fight Brain Tumors

July 24, 2015 7:16 PM Maia Pujara

Though it's hard to imagine the polio virus doing anything but harm, researchers are now using it for a positive purpose: to attack cancer cells in the brain.

A team at Duke University is using a modified inactive polio virus to infect tumor cells, setting off an immune response that lasts for several months until often the tumor is gone for good.

Dr. Matthias Gromeier began clinical trials over three years ago, and so far, 12 of 20 patients with a type of brain tumor called glioblastoma have responded well to the treatment. Gromeier said these patients were once "doomed" with no chance of survival. He added, "If you look at them today, you would not know they were cancer patients."

While this may seem like a miracle cure, Gromeier pointed out that there are limitations to this approach.

"Unfortunately, to get the immune system to do that, we usually have to provide a stimulus that is so strong just to overcome the barriers the cancers put up to defend themselves," he explained. "The immune activation will result in some toxicity."

This toxicity takes the form of brain swelling, which causes other side effects like muscle weakness and paralysis, seizures, limb swelling and tingling, speech impairments and headaches.

Still, Gromeier said, "I am optimistic that we have identified the right dose and the right way to use our virus to get an immune response strong enough to fight the

tumor but not so strong to harm the patient."

He called immunotherapy "the most exciting and most promising development in cancer research" and said it would one day transform the way tumors are treated.

Glioblastomas, the most common and lethal of all brain cancers, affect an estimated 240,000 people around the world per year.
