



The cancer drug Axitinib was tested on mice with Alzheimer's | Photo source Pixabay

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CANCER DRUG SHOWS PROMISE AS ALZHEIMER'S TREATMENT

 HEALTH & WELLBEING

A drug already approved for cancer treatment shows promise as a treatment for Alzheimer's disease

Spotted: Alzheimer's disease is the most common type of dementia, with around 1 in 9 people aged 65 or over currently living with the disease. Now, new research has found that a drug commonly used to treat cancer could help restore memory and cognitive function in Alzheimer's sufferers.

The study was a collaboration between the University of British Columbia's Centre for Blood Research, Vancouver Prostate Centre and Michael Smith Laboratories. Researchers gave a drug called Axitinib to mice with Alzheimer's. The drug is currently used to inhibit the growth of new blood vessels in the brain—a feature shared by cancer tumours and Alzheimer's disease.

Axitinib works by blocking a receptor in the brain called a tyrosine kinase receptor, which is partly responsible for increasing blood vessel formation. The drug stops abnormal blood vessels from growing. This, in turn, prevents many other effects, such as cognitive impairment. After administering Axitinib for one month, the researchers noted a dramatic reduction in new blood vessel growth. Perhaps even more significantly, the mice also saw improved performance on cognitive tests that measured learning and memory.

Professor Wilf Jefferies, the study's senior author and principal investigator said that, "We are really very excited, because these findings suggest we can repurpose approved anti-cancer drugs for use as treatments for Alzheimer's disease. It could shorten the clinical development [of drug treatments] by years."

Alzheimer's disease is characterised by cognitive decline, memory loss and dysfunctional changes in the brain. As people live longer, the number with the disease has been growing rapidly. This pressing

need to find a treatment has led to a number of other innovations. These include an **avatar** that helps patients communicate, and **machine learning** that diagnoses the early onset of symptoms.

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Takeaway:

A number of other potential Alzheimer's treatments have shown promise in animal tests only to fail in clinical trials. These tended to target the tau or beta amyloid proteins. Although Axitinib has only been applied in mice, the researchers are hopeful that the fact it is an already-approved drug will help speed up the clinical testing process for new Alzheimer's treatments. Professor Jeffries **notes** that, "Researchers including myself have been disappointed in observing numerous clinical trials for Alzheimer's disease fail to reach their clinical endpoints." The next steps include eventually conducting clinical trials to assess the effectiveness of the treatment in human patients with Alzheimer's, and studies to determine the longer-term effects of using anti-cancer on older people. But for now, the researchers are optimistic.