## Gas used for anesthesia shows promise in Alzheimer's treatment: Study

Researchers have found that a widely used anesthesia gas can help lower the progression of Alzheimer's disease.



Alzheimer's disease is a progressive brain disorder, characterised by memory loss and thinking decline.

## In Short

- An anesthesia gas could help the in treatment of Alzheimer's disease
- Alzheimer's disease is among the fastest growing brain disorders
- The anesthesia gas slows down the progressive nature of the disease

A study has found a novel treatment approach against Alzheimer's disease. While the usual methods for treatment include focussing on amyloid plaque and tau tangles (targeting the protein called tau in the brain), new researcher has shown that using Xenon gas, a popular anesthesia gas, could help improve the disease.

Researchers from Mass General Brigham and Washington University School of Medicine conducted experiments in mice and found that Xenon gas inhalation suppressed neuro-inflammation, reduced brain atrophy and increased protective neural states.

Following these findings, <u>published in Science Translational Medicine</u>, a Phase 1 clinical trial among healthy volunteers will begin soon this year.

"It is a very novel discovery showing that simply inhaling an inert gas can have such a profound neuroprotective effect," said senior and co-corresponding author Oleg Butovsky.

They researchers that its "exciting" how Xenon gas had "protective effects" on different models of Alzheimer's disease tested in the lab.

Alzheimer's disease is a progressive brain disorder that is characterised by memory loss and cognitive decline. It is the most common type of dementia that mostly affects individuals above 65.

Currently, it is among the fastest growing neurological disorders in the world. While current medications manage the symptoms temporarily, there's no cure for Alzheimer's disease.

Scientists are still investigating the cause of Alzheimer's disease. While we know certain aspects of it and how these factors cause build-up of certain proteins like amyloid and tau, more effective treatments are desperately needed.

Eventually, Alzheimer's disease damages communication between the nerve cells and causes brain abnormalities that progress over time, ultimately leading to death.

In the study, mouse models of Alzheimer's were treated with Xenon gas, used as anesthesia and a neuroprotectant for treating brain injuries.

They found that the gas penetrates the blood-brain barrier, passing from the bloodstream directly to the fluid surrounding the brain.

While further studies are needed, the researchers said that their findings hold promise that Xenon inhalation can be used as a therapeutic approach to reduce the brain ageing effects of Alzheimer's disease.

## **News Source:**

https://www.indiatoday.in/health/story/gas-used-for-anesthesia-xenon-shows-promise-in-alzheimers-treatment-study-2667426-2025-01-20