




SINGAPORE

NTU scientists discover new way to treat dementia, improve patients' memory






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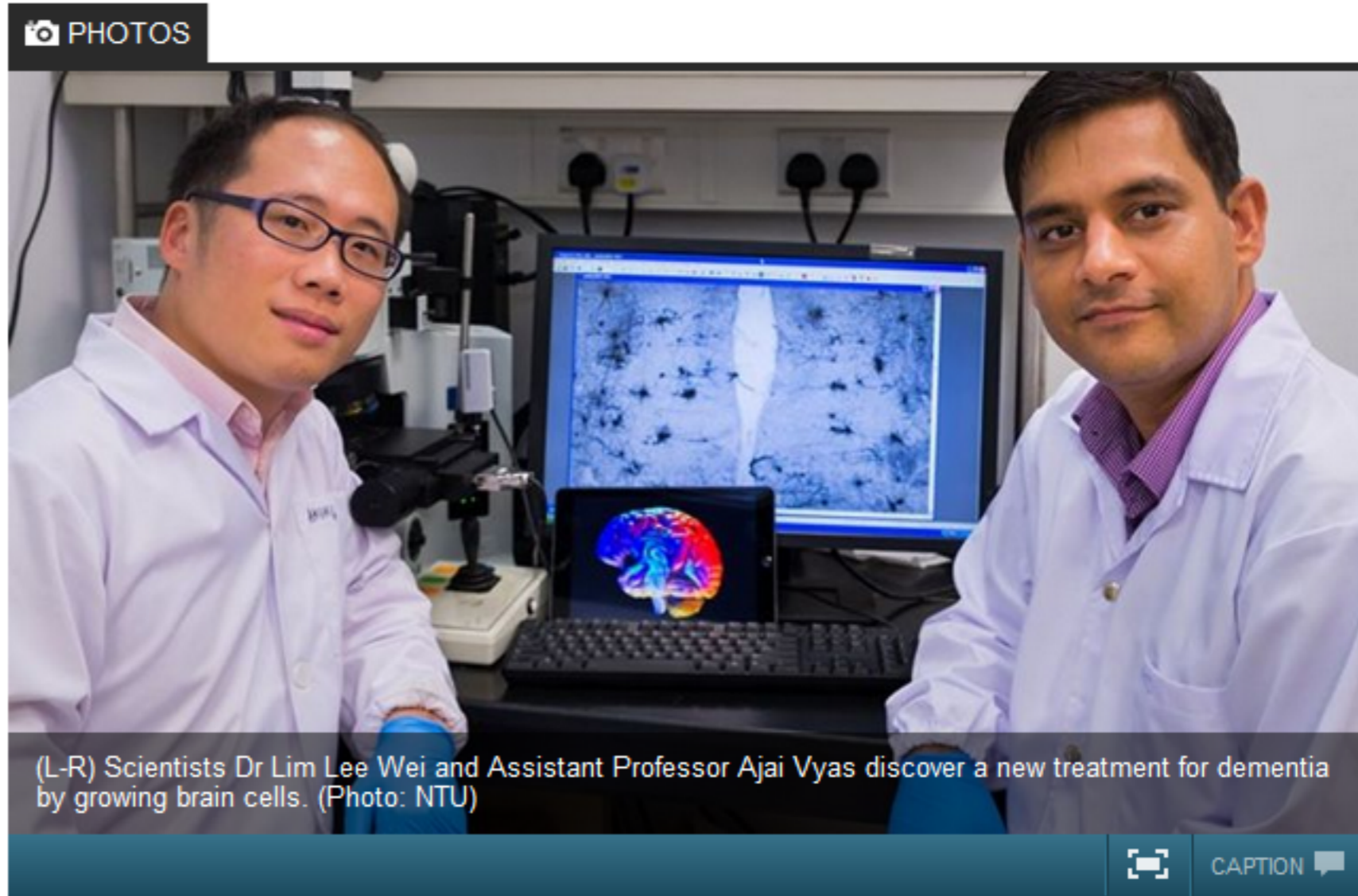
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Deep brain stimulation, which is already used in some parts of the world to treat neurological conditions, can increase brain cell growth when electrical impulses are sent to the front part of the brain, according to the scientists.



SINGAPORE: A group of Nanyang Technological University (NTU) scientists have discovered a new treatment for dementia, by sending electrical impulses to specific areas of the brain to enhance the growth of new brain cells.

In a news release on Tuesday (Apr 6), NTU said the treatment is known as deep brain stimulation, which is a therapeutic procedure already used in some parts of the world to treat various neurological conditions such as tremors or Dystonia.

"Their research has shown that new brain cells, or neurons, can be formed by stimulating the front part of the brain which is involved in memory retention using minute amounts of electricity," said the release.

The increase in brain cells will reduce anxiety and depression, and promotes improved learning, and boosts overall memory formation and retention, it added.

NTU said that the research was conducted using middle-aged rats, where electrodes which send out minute micro-electrical impulses were implanted in their brains. The rats underwent a few memory tests before and after stimulation, and displayed "positive results in memory retention", even after 24 hours.

"Extensive studies have shown that physiologically, rats' brains are very similar to humans," said Assistant Professor Ajai Vyas from NTU's School of Biological Sciences. "The electrodes are harmless to the rats, as they go on to live normally and fulfil their regular (adult) lifespan of around 22 months."

OPENING NEW TREATMENT PATHWAYS

The research findings are expected to provide new opportunities for the development of treatment solutions for patients suffering from memory loss due to dementia-related conditions such as Alzheimer's and even Parkinson's disease.

"Around 60 per cent of patients do not respond to regular anti-depressant treatments and our research opens new doors for more effective treatment options," said Prof Ajai.

Dr Lim Lee Wei, an associate professor at Sunway University, Malaysia, who worked on the research project, added that memory loss in older people "is not only a serious and widespread problem, but signifies a key symptom of dementia".

"At least one in 10 people aged 60 and above in Singapore suffer from dementia and this breakthrough could pave the way towards improved treatments for patients," he said.

- CNA/ct