

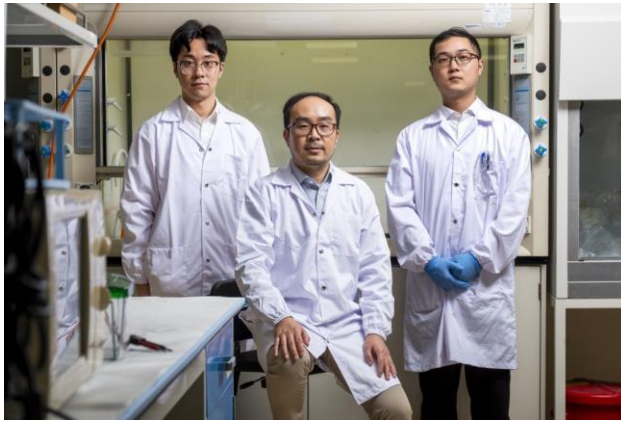


**Techmaniacs (Greece)**

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English translation

**They made history by killing brain cancer and without side effects!**



Researchers at Nanyang Technological University in Singapore have made their own history by developing a new method to fight the most common brain cancer using a much lower dose of X-rays than existing radiation treatments.

The method has been shown to limit the growth of cancerous brain tumors in mice, which paves the way for future clinical applications in humans. Each year, more than 300,000 people worldwide are diagnosed with glioblastoma, the most common brain cancer among adults. Cancer starts as a growth of brain cells, and if left untreated, it quickly spreads to the brain. On average, patients diagnosed with glioblastoma survive for about a year and a half.

One way to treat it is to use radiation, such as X-rays, to kill cancer cells. However, radiation therapy can accidentally damage healthy cells near the tumor, leading to side effects such as nausea, hair loss, and memory problems.

Radiodynamic therapy is a more recent treatment option, in which chemical compounds are injected into the patient that kill the cancer when they are activated by X-rays. The dose of X-rays patients receive to activate the compounds is lower, about 20 up to 30 % of the dose of conventional radiotherapy. However, these compounds contain heavy metals and do not always target cancer cells, causing damage to healthy cells.

New research led by Professor Pu Kanyi, of the School of Chemistry, Chemical Engineering and Biotechnology, promises to solve these problems for people suffering from brain cancer.

At the heart of Professor Pu's scientific discovery is a new compound developed by his team known as MRAP, from the initials of molecular radio afterglow dynamic probe. It contains biochemicals and iodine and no heavy metals.

In experiments with mice suffering from brain cancer, MRAPs were injected directly into the animals' tumors, followed by X-rays to the same site. The team observed that MRAPs had no side effects, leading to the hope that side effects from using MRAPs in humans are expected to be lower than other types of radiation therapy.

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