

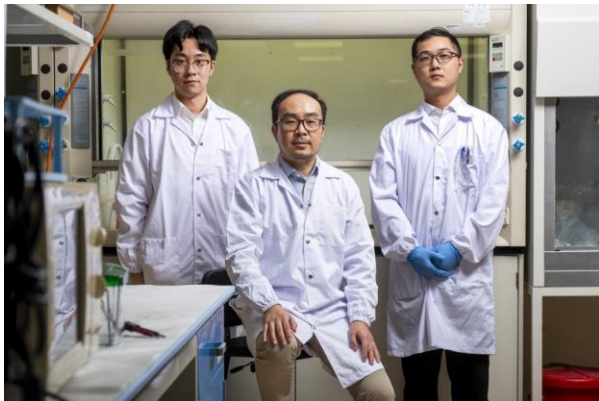


Thracian Agora (Greece)

29 July 2024

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. Every year, more than 300,000 people are diagnosed worldwide with glioblastoma, the most common brain cancer among adults. Cancer begins as brain cell growth, and if left untreated, it spreads quickly 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, killing the cancer, when they are activated by X-rays. The dose of X-rays that patients receive to activate the compounds is lower, about 20 to 30 percent of the dose of conventional radiotherapy. However, these compounds provide 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, short for molecular radio afterglow dynamic probe. It includes 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 at the same site. The team observed that MRAPs had no side effects, so the hope is that side effects from using MRAPs in humans are expected to be lower than other types of radiation therapy.

[You can read the detailed study at this link](#)

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