

MEDICINE

Brain cancer treatment shows promise

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Mahidol University researchers are pressing ahead with a plan to study a new drug delivery system which they hope can effectively treat brain cancer patients and reduce medical costs.

Speaking at a press conference to disclose the results of phase 1 of the experimental new system which used animal testing, Norased Na Songkhla, a scientist at Mahidol University's faculty of biomedical engineering, said lab tests showed positive results.

Mr Norased said the new drug delivery system had been synthesised from "PLECs copolymers", an innovative nanotechnology material and a biopolymer.

"The biopolymer is singled out as a hopeful material for scientists and medical doctors to deliver chemotherapy drugs directly to the tumour without affecting the surrounding area," Mr Norased said.

"As a result, patients could experience side effects that are less severe compared to injecting drugs."

During the lab test, he said the researchers had injected a chemotherapy drug called SN-38 directly into brain tumours in test rats.

The gel-like biopolymer would then directly release the chemotherapy into the tumour without affecting the surrounding area.

The positive results from the lab test led researchers to believe the new drug

delivery method would be able to help effectively treat brain cancer patients, he said.

The complexity of the brain system and limitations of general drug delivery systems such as injecting drugs made the survival rate of brain cancer patients particularly among children as low as 30%, he said.

Mr Norased said the existing treatment of using a wafer-like pad to cover the tumour area after a brain operation has disadvantages. The method costs more than one million baht but the product was quickly disposable and could cause brain swelling also known as cerebral edema as a side effect, he said.

The scientist believed this innovative technological concept, if successful, would enable Thai doctors to treat a brain tumour on the spot by using high doses of chemotherapy without concern over side effects such as kidney failure, liver and ulcer infections.

Also it could help reduce the cost of treatment which can reach as much as 200,000 baht, he said.

Suradet Hong-ing, a paediatrician of Ramathibodi Hospital's faculty of medicine at the same university, said further trials on humans are planned over the next two years.

Of the estimated 1,000-1,500 children aged between 1 and 15 diagnosed with cancer each year, 20% were found to have brain cancer.