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Singapore suggests repurposing of existing cancer drugs to treat aggressive brain cancer

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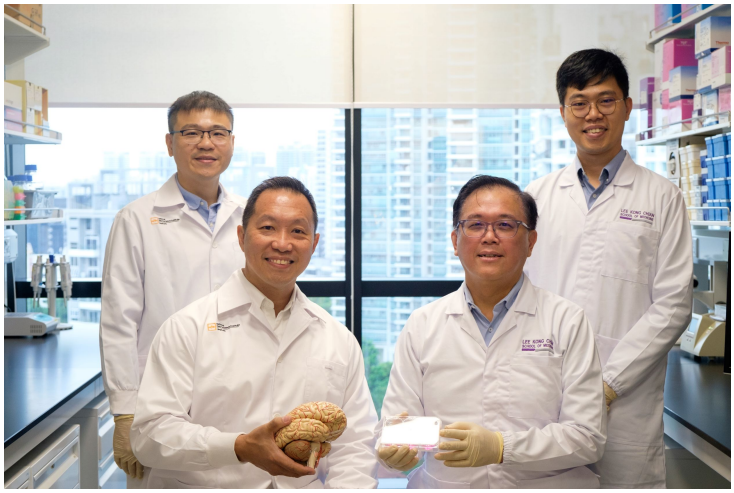
Knocking out deadly brain cancer with a double punch



Glioblastoma is an often fatal form of brain cancer, with only five per cent of patients surviving beyond five years. The cancer is difficult to treat and almost always becomes resistant to treatment. As a result, recurrence of glioblastoma is practically inevitable.

Now, findings from a joint study by researchers from Singapore-based NTU's Lee Kong Chian School of Medicine (LKCMedicine) and the National Neuroscience Institute (NNI) offer new hope for glioblastoma patients. Their work could pave the way for more effective and precise therapies for the deadly disease and prevent the cancer from recurring.

Assoc Prof Andrew Tan of LKCMedicine, who co-led the research, said "Our study has shown that glioblastoma acquires drug resistance through multiple pathways, highlighting the need for more precise treatments of the disease."

"Instead of using a single drug, therapies that target the innate and adaptive mechanisms of drug resistance simultaneously could be feasible treatments for resistant glioblastoma tumours," said Dean's Postdoctoral Fellowat LKCMedicine Dr Hong Sheng Cheng, who is the first author of the study.

"We have demonstrated that the repurposing of existing drugs is a key strategy to maximise the implementation of precision medicine in cancer, especially when treating highly recurrent tumours like glioblastoma," said Assoc Prof Ang Beng Ti, senior consultant at the Department of Neurosurgery and co-Principal Investigator at the Neuro-Oncology Lab in NNI, one of the co-lead investigators.

The researchers plan to conduct clinical trials to bring the treatment one step closer to the clinic. They also intend to employ cutting-edge molecular profiling techniques alongside artificial intelligence technologies, such as machine learning, to refine the strategic combination and delivery of drugs for treating glioblastoma.