

# Lung cancer therapy may improve outcomes of metastatic brain cancer

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A medication commonly used to treat non-small cell lung cancer that has spread, or metastasized, may have benefits for patients with metastatic brain cancers, suggests a new review and analysis led by researchers at St. Michael's Hospital of Unity Health Toronto and Harvard Medical School.

Published today in *JAMA Network Open*, the research hones in on osimertinib, a treatment recently approved in North America as a therapy for metastatic non-[small cell lung cancer](#) with a specific mutation.

In a meta-analysis of 15 studies with 324 patients, researchers found that 64 per cent of patients with [metastatic brain cancer](#) whose cancer had spread from their lungs and were part of clinical trials with this therapy experienced a measurable response, and 90 per cent experienced disease control in the central nervous system. Up to 40 per cent of patients, however, reported severe side effects from the treatment.

"The development of brain metastases is an often feared complication of cancer," said Anders

Erickson, a [graduate student](#) at St. Michael's Hospital in Dr. Sunit Das' lab, who led this research.

"Cancers that spread to the brain have historically required radical treatment with surgery or radiation. Chemotherapies that are capable of killing cancer cells in the rest of the body are unable to penetrate the blood-brain barrier."

There is a lack of evidence to support the use of targeted therapy—or small molecules that target the specific drivers of a cancer—in metastatic brain disease. The researchers set out to fill this gap by further analyzing whether this targeted treatment, known for its ability to cross the [blood-brain barrier](#), might be beneficial to patients whose lung cancer had spread to the brain.

"Though more research is needed, our study supports the potential role this therapy could play for patients," said Dr. Das, a scientist at the Keenan Research Centre for Biomedical Science and a neurosurgeon at St. Michael's.

"It suggests we may one day be able to treat these patients without the concerns associated with surgery and radiation."

The scientists aim to investigate this topic on a broader scale, looking at larger data sets to survey the impact of different targeted therapies for metastatic brain cancer.

"We hope our work will contribute to knowledge that will inform future treatment and move the needle for [patients](#) with metastatic brain [cancer](#) in the era of precision medicine," Erickson said.

**More information:** Anders W. Erickson et al. Assessment of Effectiveness and Safety of Osimertinib for Patients With Intracranial Metastatic Disease: A Systematic Review and Meta-analysis *JAMA Netw Open*. 2020; 3(3):e201617. [DOI](#):

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