

Molecular treatment is able to control brain metastasis of different tumors

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Mount Sinai researchers conducting clinical trials of a drug targeting a cancer gene found that it increased metastatic cancer patients' survival and was able to work within the brain, according to a study published in *Clinical Cancer Research* in February.

The drug entrectinib targets cancers that involve fusions between the

[cancer gene](#) *NTRK* and other genes, including certain types of lung, breast, colon, and other cancers. This study looked into the effectiveness of the drug a year after three [clinical trials](#) were completed and found patients' response rates post-trial were 60 percent.

A significant finding in this study, which was not seen in the initial trials, was that the drug is able to cross the [blood-brain barrier](#) effectively. Researchers found evidence that the therapy was working against metastatic [cancer](#) that spread to the brain.

"This is the largest study evaluating the safety and activity of entrectinib in *NTRK* fusion-positive [solid tumors](#)," said Christian Rolfo, MD, Ph.D., MBA, Professor of Medicine (Hematology and Medical Oncology) at the Icahn School of Medicine at Mount Sinai and Associate Director for Clinical Research in the Center for Thoracic Oncology at The Tisch Cancer Institute. "The confirmation of substantial effect on metastases in the brain suggests that entrectinib could address the unmet need of an effective treatment for patients with *NTRK* fusion-positive tumors that spread to the central nervous system. Although *NTRK* fusions are rare, our results should encourage broader screening for these fusions in patients with solid tumors as they may benefit from entrectinib, particularly because the extended life expectancy of these patients may increase the likelihood of metastases in the brain."

Gene fusions involving *NTRK* can be associated with a large range of tumor types. They occur in 90 percent of rare pediatric tumors and rarer subtypes of breast cancers and salivary cancers.

This study examined the outcomes of 121 patients with metastatic cancer about a year after their clinical trials ended. All patients had metastatic cancer, and about 61 percent of them saw a decrease in their cancer. About 13 percent of patients had no progression of their cancer.

This international study was conducted in several institutions in collaboration with investigators from Dana Dana-Farber Cancer Institute, Ludwig Center at Harvard Medical School, and other international centers. The research was funded by F. Hoffmann-La Roche Ltd.

Provided by The Mount Sinai Hospital

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