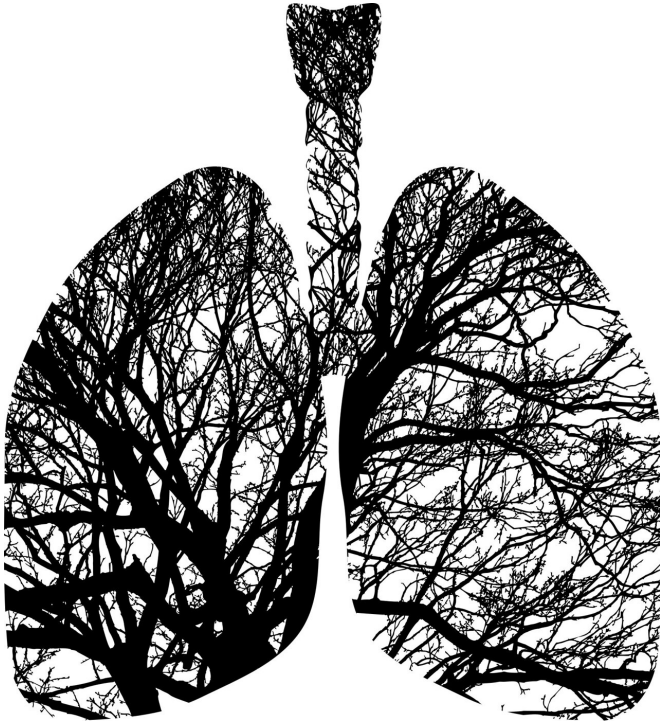


Novel therapy shows promise for lung cancer patients with rare EGFR mutation

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Lung cancer is the leading cause of cancer death among men and women in the United States, regardless of ethnicity. Non-small cell lung cancer is the most common form of the disease, accounting for 84% of all diagnoses. One option for this group of patients is targeted therapy, a type of treatment that attacks specific genes and proteins within a cancer cell. Moffitt Cancer Center is part of a multinational, early phase clinical trial evaluating a new targeted therapy for patients with metastatic or unresectable non-small cell lung cancer who have a specific genetic mutation: EGFR Ex20Ins.

CHRYSALIS is a phase 1, open label, dose escalation and dose expansion trial evaluating amivantamab, a bispecific antibody with immune

cell directing activity designed to engage two distinct driver pathways in non-small cell [lung cancer](#): EGFR and MET. The novel [therapy](#) has already received Breakthrough Therapy Designation by the U.S. Food and Drug Administration based on preliminary efficacy data. New expanded data from the trial was published in the *Journal of Clinical Oncology*.

Mutations in the [epidermal growth factor receptor](#) (EGFR) gene are the most common targetable genomic drivers of non-[small cell lung cancer](#). The role of EGFR is to help cells grow and divide. However, when EGFR is mutated, cell growth goes unchecked, allowing abnormal cells the opportunity to grow and multiply. There are several types of EGFR mutations. One type, EGFR exon 20 insertion (EGFR Ex20Ins), is seen in less than 10% of patients, but those with this specific EGFR mutation have poorer outcomes and don't respond to FDA-approved targeted therapies, such as tyrosine kinase inhibitors. In addition, therapies are needed for patients whose tumors progress on experimental inhibitors for EGFR Ex20Ins.

"We have successfully developed targeted therapies for other types of EGFR mutations, but those therapies have less benefit for patients with the EGFR Ex20Ins mutation. Platinum-based chemotherapy remains the standard of care treatment for this group," said Eric Haura, M.D., study author and associate center director of Clinical Science at Moffitt.

Accurate detection of EGFR Ex20Ins mutations is critical to identify patients with lung cancer who are most likely to respond to EGFR Ex20Ins targeted therapy. Smaller targeted assays may not identify all EGFR Ex20Ins mutations. The Moffitt STAR (Solid Tumor Actionable Result) genomics panel, a comprehensive next generation sequencing platform, precisely identifies patients with EGFR Ex20Ins mutations who may benefit from EGFR Ex20Ins targeted therapy.

The new expanded data of the CHRYSALIS study included 81 patients. The overall response rate, meaning the portion of patients who responded to the therapy, was 40%. Three patients had a complete response, meaning there was no evidence of disease, and 29 patients saw a partial response. The median duration of response was 11.1 months, with 20 patients having responses of at least six months or greater.

"The results from the study are encouraging, as we're seeing durable responses among patients with a hard-to-treat subtype of [non-small cell lung cancer](#)," said Haura. "In addition, we have seen responses in patients who have had prior therapy directed against these rare EGFR mutations."

Ongoing studies with amivantamab continue at Moffitt for EGFR mutant and MET mutant lung cancer patients, and opportunities for this drug in other [cancer](#) types are being explored.

More information: Keunchil Park et al, Amivantamab in EGFR Exon 20 Insertion–Mutated Non–Small-Cell Lung Cancer Progressing on Platinum Chemotherapy: Initial Results From the CHRYSALIS Phase I Study, *Journal of Clinical Oncology* (2021). [DOI: 10.1200/JCO.21.00662](https://doi.org/10.1200/JCO.21.00662)

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