

New research outlines promising therapies for small cell lung cancer

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Two recently published studies by a research team at University Hospitals (UH) Case Medical Center Seidman Cancer Center have the potential to advance treatments for small cell lung cell cancer (SCLC). This aggressive form of lung cancer has seen no treatment advances in 30 years and "is a disease in urgent need of new drug therapies," write the study's authors.

"In small cell [lung cancer](#), which impacts about 30-40,000 people each year in the United States, there has been no therapeutic progress and very little research," says Afshin Dowlati, MD, lead author and Director of the Center for Cancer Drug Development at UH Seidman Cancer Center. "Additionally, there are no approved targeted therapies for the disease. These studies lay the foundation for future research aimed at finding important new treatments for this highly malignant cancer."

A study titled, RET Mutation and Expression in Small Cell Lung Cancer, was published in the September issue of *Journal of Thoracic Oncology* and found a new mutation in SCLC which may play a role in the disease's development. The researchers found that the genetic mutation, called RET (rearranged during transfection), was linked to rapid cell growth.

The research team examined specimens in its database of metastatic SCLC tumors, one of the largest databases of its kind in the country. They found that the RET mutant protein was potentially linked to faster-growing cells that were sensitive to ponatinib and vandetanib, two new

targeted drug therapies. Future clinical trials for patients with the RET mutation are planned to further validate the data.

"We were encouraged to find that these two cancer-fighting therapies are potentially effective at stopping [cancer cell growth](#) in certain small cell lung cancers," says Dr. Dowlati, who is Professor of Medicine – Hematology/Oncology, Case Western Reserve University School of Medicine and a member of the Case Comprehensive Cancer Center. "These findings have the potential to give cancer physicians a new tool to more effectively tailor treatments for patients."

The other study, published in PLOS One, outlines a novel approach to identify new [drug therapies](#) for SCLC based on tumors' genomic profiles. The research team discovered new molecular targets for treating the disease by extracting data from SCLC tumors to examine drug sensitivity. Through this analysis, they outlined a promising new approach to predict which cancer-fighting drugs would be the most broadly effective at slowing tumor growth.

"This study enabled us to identify which drugs may be the most useful in which types of tumors," says Dr. Dowlati. "Small cell lung [cancer](#) is one of the fastest growing cancers and these studies have yielded small but important therapeutic insights into this disease." Dr. Dowlati is additionally the Rosalie and Morton A. Cohen Chair in Oncology and the Lucile and Robert H. Gries Endowed Director, Center for Cancer Drug Development at UH Seidman Cancer Center.

Provided by University Hospitals Case Medical Center

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