

Testing for mutations identified in squamous cell lung cancer tumors helps personalize treatment

May 17 2012

Screening lung cancer tumor samples for cancer-causing, or "driver," genetic mutations can help physicians tailor patients' treatments to target those specific mutations. While scientists have identified cancer-causing mutations for the majority of lung adenocarcinomas - the most common type of non-small cell lung cancer - and have developed drugs that can successfully address them, scientists have not yet identified targeted therapies for another type of non-small cell lung cancer known as squamous cell carcinoma.

Now, researchers from Memorial Sloan-Kettering Cancer Center have begun testing for three new genetic targets and found that together they occur in approximately 50 percent of patients with squamous cell carcinomas of the lung, which affects 40,000 Americans each year. Initial findings of the research will be presented on June 4 at the 2012 American Society of Clinical Oncology (ASCO) Annual Meeting.

"In the span of one year, we have gone from having essentially zero [clinical trials](#) of targeted therapies to offer our squamous cell lung cancer patients to being able to offer clinical trials of targeted therapies to upwards of 50 percent," said Paul K. Paik, MD, a medical oncologist on Memorial Sloan-Kettering's Thoracic Oncology Service and lead investigator of the new molecular testing project known as the Squamous Cell Carcinoma of the Lung Mutation Analysis Program, or SQ-MAP.

Memorial Sloan-Kettering was one of the first centers to use this type of genetic testing for lung cancer patients and is currently one of the only centers testing for [mutations](#) in squamous cell carcinomas of the lung. Memorial Sloan-Kettering is also one of only a handful of centers in the world that conducts genetic testing of the tumor as a routine part of diagnosis and staging for patients with non-small cell lung cancer.

Genetic testing of lung adenocarcinomas is conducted as part of the [Lung Cancer](#) Mutation Analysis Project (LC-MAP), which began at Memorial Sloan-Kettering in January 2009. SQ-MAP, which began in October 2011, has already identified cancer-causing mutations in 50 percent of squamous cell lung carcinoma tumors tested. Enrollment is now open for two clinical trials of new targeted therapies for this type of cancer, and a third clinical trial is planned.

Dr. Paik received a Conquer Cancer Foundation of ASCO Career Development Award and a Geoffrey Beene Grant Award for this project.

Provided by Memorial Sloan-Kettering Cancer Center

Citation: Testing for mutations identified in squamous cell lung cancer tumors helps personalize treatment (2012, May 17) retrieved 19 November 2023 from <https://medicalxpress.com/news/2012-05-mutations-squamous-cell-lung-cancer.html>

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