Liquid biopsy provides real-time blood test for solid lung cancer tumors

27 February 2015, by Vicky Agnew

Credit: Shutterstock

In the rapidly changing world of molecular profiling for genetic diseases, cancer researchers are increasingly optimistic about the reality of a simple blood test to monitor and treat solid tumor cancers.

Recent studies show that liquid biopsy, conducted through a blood test, could be a surrogate for standard tissue biopsies in assessing genomic changes in certain non-small cell lung cancer tumors, according to an editorial by Yale cancer researchers Dr. Roy S. Herbst, Katerina Politi, and co-author Dr. Daniel Morgensztern of Washington University in St. Louis, published February 26 in *JAMA Oncology*. Specifically, the authors commented on a study looking at non-small cell lung tumors with particular genetic alterations that could be detected in blood.

The findings of that study have significant implications for other types of solid tumors, said Herbst, professor of medicine and pharmacology, and chief of medical oncology at Yale Cancer Center and Smilow Cancer Hospital. A blood test offers a less-invasive and less-expensive way to rebiopsy patients at various points during treatment, he noted. Patients could avoid additional surgeries, and oncologists could make more timely decisions about which drugs are the best match given a tumor's genetic profile.

"Until recently, profiling tumors using blood serum wasn't accurate enough to detect the complexities of solid tumors in a way that would allow us take meaningful action," Herbst said. "This real-time monitoring means we will know what's happening with a tumor as it changes, for better or worse."

Historically, blood biopsy has been used for molecular profiling of blood cancers and other genetic diseases like Down syndrome. Yale is investigating how liquid biopsies can be used to track response and resistance to cancer therapies. A key issue will be the sensitivity and specificity of the test, which Yale researchers will continue to explore.

More information: "EGFR Mutations in Non–Small-Cell Lung Cancer" *JAMA Oncol*. Published online February 26, 2015. DOI: 10.1001/jamaoncol.2014.278

Provided by Yale University