Researchers develop blood test to detect lung cancer

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Lung cancer is the leading cause of cancer death for both men and women in the United States and around the world, mainly because lung cancers are found in late stages and the best treatment opportunities already have been missed. In Kentucky, the incidence of lung cancer is 49 percent higher than the national rate. However, a new blood test being developed at the University of Kentucky could soon change all that.

For the past five years, Drs. Edward A. Hirschowitz and Li Zhong have led a team developing the blood test, which could potentially help detect lung cancer in early stages in people with high risk factors for developing the disease.

"Early detection of lung cancer is the key to improving survival," said Zhong, who was the lead author of a study appearing in the July issue of the Journal of Thoracic Oncology that described how the test is 90 percent accurate in correctly predicting non-small-cell lung cancer in patients years before any CT scan can detect it.

Although the researchers have received almost $1.5 million in funding for the development of the test from various sources, they recently received an additional $175,000 National Institutes of Health grant to transform the blood test into a format that real-world clinicians could easily use. And with further studies confirming the reliability of the new format, it could become the first blood test to predict cancer since the prostate specific antigen (PSA) test was introduced in the 1970s.

The multi-biomarker blood test, which works by identifying the body's own immune response to tumors, would help diagnose lung cancer at the earliest stage in those with high risk factors such as age, smoking and genetic history.

Globally, lung cancer is by far the biggest cancer killer, with 10 million people diagnosed each year. In the U.S. alone, the number of lung cancer deaths has risen for each of the past five years to nearly 164,000. The main reason for such a high fatality rate is that 85 percent of lung cancers are found in stages too advanced for best treatment opportunities, Zhong said. Half of all patients die within a year of diagnosis.

For the next two years, the UK research team will collaborate with the private biotechnology company 20/20 GeneSystems to develop the clinical application for the blood test.

"We are hoping in the next several years this test would become available to the public," Zhong said.

Source: University of Kentucky

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