

Scottish study shows that autoantibody test followed by CT imaging may reduce lung cancer mortality

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A combination of the EarlyCDT-Lung Test followed by CT imaging in Scottish patients at risk for lung cancer resulted in a significant decrease in late stage diagnosis of lung cancer and may decrease lung cancer specific mortality, according to research presented at IASLC 2019 World Conference on Lung Cancer hosted by the International Association for the Study of Lung Cancer (IASLC). The research was presented by Prof. Frank Sullivan, from the University of St Andrews, St Andrews/United Kingdom.

Scotland has one of the highest rates of [lung cancer](#) in the world—approximately 460 men and 340 women for every 100,000 Scottish citizens are diagnosed with lung [cancer](#) every year in the United Kingdom. Less than 9 percent of all lung cancer patients reach their five-year survival mark.

The EarlyCDT-Lung Test is a novel autoantibody [diagnostic test](#) for the early detection of lung cancer that allows stratification of individuals according to their risk of developing lung cancer. The [test](#) identifies 41 percent of lung cancers with

a [high specificity](#) of 90 percent, compared to CT scanning, which identifies 67 percent of lung cancers but with a low specificity of around 49 percent. Specificity refers to a test's ability to correctly identify those who are negative for a disease.

Sullivan and his team sought to determine whether using the EarlyCDT-Lung Test, followed by X-ray and CT scanning, could identify those at high risk of lung cancer and reduce the incidence of patients with late-stage lung cancer or unclassified presentation (U) at diagnosis, compared to standard clinical practice.

To answer this question, Sullivan randomized 12,208 participants aged 50 to 75 who had a high risk of developing lung cancer over the next 24 months to either the study intervention or standard practice in the United Kingdom. Test positive patients were offered a chest X-ray followed by a non-contrast thoracic CT scan. If the initial CT scan revealed no evidence of lung cancer then subsequent CT scans were offered 6 monthly for 24 months. Individuals with abnormalities were followed up over the study period or referred for clinical care as appropriate. All individuals entering the study were followed up via trial monitoring software linked to Scottish Health Records including the Scottish Cancer Registry.

Sullivan's team discovered that 127 lung cancers were diagnosed in the study period (56 in the intervention group and 71 in the control arm) and 9.8 percent of the intervention group had a positive EarlyCDT-Lung test and 3.4 percent (n=18) of these were diagnosed with lung cancer in the study period.

"The study was not powered to detect a difference in mortality after two years, however there was a

non-significant trend suggesting fewer deaths in the intervention arm compared to the control (87 vs 108 respectively). Similar results were noted relating to lung cancer-specific mortality (17 vs 24)," Sullivan reported.

Sullivan added that significantly fewer participants in the intervention group were diagnosed at a late-stage compared with the control group (33 vs 52).

"Our results show that the combination of the EarlyCDT-Lung followed by CT imaging in those with a positive blood test, results in a [significant decrease](#) in late stage diagnosis of lung cancer and may decrease all cause and lung cancer specific mortality. We shall continue follow up of all participants' [lung](#) cancer and mortality outcomes at 5 years using Scottish ISD (Information Services Division) data to study these effects further."

Provided by International Association for the Study of Lung Cancer

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