

Impact of Lung Nodules on LDCT on Smoking Cessation

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Short Communication

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Abbreviations: NLST: National Lung Screening Trial; LDCT: Low-Dose Computed Tomography; CXR: Chest X-Ray; CMS: Centers For Medicare & Medicaid Services; I-ELCAP: International Early Lung Cancer Action Program.

Short Communication

Lung cancer is the leading cause of cancer related mortality worldwide [1-5]. The data from the US National Lung Screening Trial (NLST) showed annual low-dose computed tomography (LDCT) for lung cancer screening in the high risk population reduced lung cancer mortality by 20% compared with a chest x-ray (CXR) [6]. With the Centers for Medicare & Medicaid Services (CMS) covering lung cancer screening, the access to LDCT has dramatically improved across the nation. The current eligibility criteria include asymptomatic patients between 55 - 77 years with a tobacco smoking history of at least 30 pack-years and includes current smokers or people who have quit smoking within the last 15 years. Smoking continues to be a major contributor to morbidity and mortality and is associated with a huge economic burden [7].

The purpose of this study was to investigate the impact of presence of radiologically benign findings seen on annual low-dose computed tomography obtained in a large community hospital for lung cancer screening under the International Early Lung Cancer Action Program (I-ELCAP). One hundred consecutive patients who qualified per the CMS guidelines were enrolled under I-ELCAP program and received LDCT. The mean age of the participants was 68 years and 63% of the enrollees were men. The mean smoking pack years was 42.

77 of the 100(77%) participants did not have any nodules, masses or any abnormality concerning for malignancy. 7 of the remaining 23(7%) had intermediate/high risk nodules or masses and proceeded to either more imaging (PET/CT) and / or biopsy. Novel minimally invasive techniques have opened the thoracic cavity to the pulmonologists and patients commonly do not need surgery for diagnosis which are offered at our institution [8,9]. The remaining 16 patients were followed up radiologically per the Fleischner criteria for pulmonary nodules. 2 of the 16 had enlarging nodules and proceeded to a biopsy during the follow up period.

The remaining 14 patients completed their follow up imaging and the sub centimeter nodules remained stable. 8 of the 14 (64%) had quit smoking by the time they had finished the lung nodule follow up protocol which was much higher than the institutional quit rate of 10-20% through other smoking cessation programs. 65 of the 77 original patients were active smokers at the time of the original scan and 48 of them (74%) were still smoking at the conclusion of the study for a quit rate of 26%.

With the I-ELCAP program, physicians/ health care providers get numerous opportunities to provide counselling for smoking cessation. Psychological impact of having an abnormal scan must also play a role in achieving smoking cessation. Limitations of the study include a single center study with a small sample size. More prospective data needs to be accumulated to use this program to achieve the holy grail of pulmonary medicine - smoking cessation.

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