
Keynote Lecture 2

S28. CT-screening for lung cancer: The pros and cons

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It is now 10 years since the landmark publication of the single arm prospective cohort study, Early Lung Cancer Action Project (ELCAP), and now in conjunction with international collaborators, IELCAP, have screened over 31 000 subjects. The initial findings from the original 1000 participants have been confirmed: low dose CT screening when combined with meticulous technique for analysis, follow-up and management detects early stage lung cancer and improves survival compared to clinically presenting disease. A number of single centre prospective single arm cohort studies have also reported their results and these confirm the ability of CT to detect early stage disease. Some of these studies have incorporated different imaging and management algorithms such as PET scanning and nodule enhancement protocols in an attempt to improve the differentiation of the benign from malignant nodules detected. There are now two prospective randomised studies currently underway investigating the use of low dose CT scanning in lung cancer; the National Lung Screening Trial (NLST) in the United States of America, and the NELSON trial in Belgium and the Netherlands. Three of the non-randomised cohort studies (Mayo Clinic, Milan and Moffitt Cancer Centre) have combined their

study data to compare to estimates of the predicted frequency of being diagnosed with lung cancer, having surgery for lung cancer or dying from lung cancer using two models derived to determine these risks. The combined groups diagnosed 144 individuals with lung cancer compared with 44.5 expected cases, 109 individuals underwent a lung resection compared with 10.9 expected resections and there were 38 deaths due to lung cancer compared to 38.8 expected deaths. The IELCAP group has compared their data to the epidemiological data available for patients presenting symptomatically. IELCAP reported in 2006, that 31567 participants had been screened using low dose CT, resulting in a diagnosis of lung cancer in 484 individuals. 412 (85%) had clinical stage I and had an estimated 10 year survival of 88%. Additionally, the prevalence of nodal disease spread in the participants with lung cancer was found to correlate with tumour size. Of the 436 non-small cell lung carcinomas, those without evidence of metastatic disease (NOM0) were 91%, 83%, 68%, 55% for tumours ≤ 15 mm, 16–25 mm, 26–35 mm, and >35 mm respectively. This review will discuss the Pros and Cons of lung cancer screening.