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Editorial Open Access

From Lung Cancer Screening to Targeted Therapies: The Endless Race against Lung Cancer Morbidity and Mortality

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Editorial

Lung cancer represents an area of intensive research, owing to its prevalence and significant burden. More than one in five of all cancer deaths are attributed to lung cancer usually being unresectable at the time of diagnosis, lung cancer is associated with very poor outcomes therefore highlighting the importance of early diagnosis. Standard chemotherapy and conventional radiotherapy have limited effects on advanced stage disease therefore the need for novel, more effective therapeutic approaches has emerged Over the recent years, research has focused on two aspects: earlier diagnosis, to increase the proportion of patients with an operable disease on diagnosis, and targeted treatments, that are tailored to patients and are expected to further improve clinical outcomes. Early diagnosis is a rapidly evolving area, with several ongoing or completed trials assessing low-dose CT screening in high risk population for early detection of lung cancer. These include recently published early results from the UK Lung Cancer Screening Trial, a pilot randomized controlled trial that compared lung cancer screening versus usual care and recruited 4,055 individuals aged between 50-75 years, with a high risk of lung cancer, determined by factors such as smoking duration, occupational exposure to asbestos, family history or prior diagnosis of malignant tumour. This study concluded that lung cancer screening would be acceptable by individuals of screening age and would lead to a significant epidemiologic shift towards earlier diagnosis of lung cancer, with improved clinical outcomes [1]. Similarly, the Danish Lung Cancer Screening Trial which included 4,104 participants (aged between 50-70 years), supported the efficacy of low dose CT [2] in the early detection of lung cancer. Controversially, the DANTE Randomized Controlled Trial, with a study population of 2,450 participants, failed to prove the efficacy of low-dose CT screening, likely because of the limited statistical power of their sample [3]. Moreover, other studies commented on the physical and psychosocial burden associated with screening programs, false positive results and overdiagnosis and highlighted the need to take into account well-informed patients' values [4,5]. The NELSON Trial, an extensive ongoing randomised controlled trial with a study population of 15,822 high-risk patients is expected to shed more light. On the other side, targeted agents are also intensively studied as first or second line treatments and in particular new generations of TKIs (tyrosine kinase inhibitors) are trialled to overcome patterns of resistance.

In this issue of Journal of Lung Cancer Diagnosis and Treatment, we present a comprehensive update on the current evidence on the strengths and weaknesses of targeted lung cancer treatments. We highlight the significant advances in the field and promising trial results as well as current limitations and grey areas that need further clarification. Despite robust scientific evidence for the use of targeted treatments in selected lung cancer patients, some countries are yet to support their funding in their national health care systems due to their increased costs. Consequently, selected patients in these countries can access these agents as part of their recruitment in a clinical trial [6]. To this effect wider collaborations between lung cancer networks are required to improve patient access to these treatments and enhance recruitment rates [7]. The race against lung cancer morbidity and mortality still continues. Strong foundations have been set over the past few years and further collaborative work is needed to ensure we continue to improve the quality of care offered to our patients and ensure they have a positive experience.

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