

Lung cancer in patients younger than fifty years of age. Incidence, prognosis and the socioeconomic consequences

Introduction

Lung cancer is the most common cause of cancer-related death globally. It is primarily a disease among the elderly. However, a small proportion of lung cancer patients are younger than fifty years of age at the time of diagnosis. This group differs from the elderly group of lung cancer patients in several aspects, but the group is poorly represented in current literature. Global associations including The European Respiratory Society recommend the introduction of screening for lung cancer to improve survival. The most commonly recommended screening criteria's being age and history of tobacco smoking. The young lung cancer patients will thus not benefit from the implementation of such screening programs and it is important to characterize this group of patients, so we do not neglect the disease in this patient population. Suspicion of lung cancer may arise late during the course of disease in the young lung cancer patient and thus result in a more advanced stage at diagnosis. It is imperative to clarify the routes to diagnosis for these patients, now on the verge of implementation of screening programs for lung cancer, to insure the same improvement in survival for this group of lung cancer patients.

The younger lung cancer patients are diagnosed and treated for their lung cancer in another phase of life and could thus affect their relationships, families and attachment to the labor market.

Aim

The overarching aim of the study is to describe the group of patients, course of disease and time after treatment for those receiving curable intended treatment. We aim to explore, whether improvements regarding key endpoints such as stage at diagnosis, proportion of patients referred to curative treatment and prognosis in younger lung cancer patients have improved to the same extent as for the remaining lung cancer patients from 2000 - 2022.

Furthermore, we aim to explore the socioeconomic consequences of a curable lung cancer diagnosis early in life, were the patients are still expected to be a part of the work force.

Method

The study is designed as a population-based retrospective cohort study. The comprehensive Danish national registries, both with respect to lung cancer patients but also sociodemographic, provide a unique possibility to investigate these circumstances.

We will primarily include data from the following sources: The Danish Lung Cancer Registry, which contains a wide array of data regarding patient-related, disease specific- and clinical factors including treatment details. National Patient Registry, which contains data on all contacts with somatic hospitals in Denmark including information on inpatient and outpatient visits, dates and department codes. From Statistics Denmark we will link information regarding income, educational level, marriage, immigration status, and cohabitation with the register-based data. If deemed necessary supplemental data from medical records from specific subgroups may be retrieved.

Perspective

The results of these studies will provide key inputs to areas of clinical practice that potentially could be improved regarding diagnosis of lung cancer in young patients. This study can provide novel knowledge about the potential long-term sociodemographic consequences for young lung cancer patients, and identify areas regarding rehabilitation where intervention is needed. The results will produce relevant information in both a national and international context which will benefit both the clinicians and the young lung cancer patients.