

The incidence of heart disease as a result of radiation therapy in patients with lung and esophageal cancer in Denmark

English summary

Curatively intended radiotherapy (RT) is a treatment option for loco-regionally advanced non-small cell lung cancer (NSCLC) and esophageal cancer (EC). NSCLC and EC have a poor survival, but the survival is increasing. This creates a need to focus on long term toxicities after RT. One of the long-term toxicities in patients with breast cancer and Hodgkin's lymphoma treated with radiotherapy is heart related toxicities, but little is known about cardiac toxicity in survivors from NSCLC and EC. Detection of coronary artery calcium (CAC) with computed tomography (CT) is a reliable biomarker for cardiac events. Evidence suggests that statins reduces the risk of cardiovascular disease but also reduces the risk of dying from cancer. In the field of cardiology, imaging modalities as echocardiography (ECHO) and cardiac magnetic resonance (cMR) are used to detect cardiac disease.

This PhD project will investigate if definitive RT treatment in patients with NSCLC and EC can lead to cardiac toxicity and investigate if statins are associated with a better survival. Additionally, can cMR and ECHO be used to detect early and late cardiac toxicity?

This study will generate knowledge about cardiac toxicity post definitive RT in patients with NSCLC and EC, and methods to detect toxicities.