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Asbestos cancer and biomarker HUNT

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Abstract

In oncology research, some of the key goals are to find markers of early diagnosis, which is crucial for survival as well as search for novel treatment targets. Inhalation of **asbestos**, a family of fibrous minerals, is the main cause of **mesothelioma,** a cancer of the pleura and peritoneum with median survival of only 12 months with state-of-the-art treatment. **Lung cancer** is the cancer entity that takes most lives worldwide with 5-year survival across stages of 15%. Over 80% of **lung cancers** are tobacco-related, but inhalation of asbestos contributes, increaseing the risk by many-fold. WHO reports that 125 million people encounter asbestos in the workplace, and it is estimated that 100 000 - 140 000 workers world-wide die each year by cancer due to occupational asbestos exposure.

The **HUNT** (**H**else**u**ndersøkelsen i **N**ord-**T**røndelag) biobank used in this population study contains serum samples and DNA from blood leukocytes collected during the periods1995-97 and 2006-2008, in total >78 000 individuals. Moreover, several of the potential patients donated serum at both time points, so we can examine change of target molecules over time. More than 400 cases of lung cancer and a number of mesotheliomas were identified with pre-clinical serum 1-15 years before diagnosis. Controls matched to age, gender, exposure to tobacco will be identified. Here we will describe study design and preliminary data using a unique biobank to perform a longitudinal, prospective, population-based study of the cancers at interest and target molecules for biomarker discovery.

Biography

Oluf Dimitri Røe is Consultant oncologist at the Cancer Clinic of the Levanger County Hospital of Nord-Trøndelag Health Trust and researcher at the Nowegian University of Science and Technology with interest in resistant cancers, translational and biomarker studies. He has collaborative projects with centers in China and Europe, and has initiated and is currently principal investigator of a biomarker discovery study with a unique population based biobank in Norway, the HUNT biobank. He is reviewer for several oncological journals and has been invited speaker in several international meetings.