

## Press release

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### Basic information

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Department of: Clinical Medicine

Main supervisor: Karina Dalsgaard Sørensen

Title of dissertation: Identification of novel biomarkers in prostate cancer to improve clinical management

Date for defence: 16/12 2020 at (time of day): 13:00 Place: zoom - see below

Press release (Danish)

Identifikation af nye biomarkører til at forbedre den kliniske håndtering af prostatakraft.

Prostatakraft (PC) er den næst hyppigste kræftform blandt mænd i den vestlige verden og den tredje hyppigste årsag til kræftrelaterede dødsfald. Lokaliseret PC har en god prognose og kan kureres med operation (radikal prostatektomi) eller stråling, men de nuværende metoder til at stille diagnosen og prognosen er langt fra optimale, hvilket resulterer i overbehandling af fredelig PC og utilstrækkeligt behandling af aggressiv PC. 5-års overlevelsen for lokaliseret PC er næsten 100%, men den falder til omkring 30% hvis den spredte sig til andre organer. Nogle patienter oplever tilbagefald efter kurativ behandling imens andre har metastater på diagnosetidspunktet (de novo metastatisk PC). En række livsforlængende behandlinger er blevet godkendt til metastatisk PC, men responsraterne er lave og patienter som initialt responderer på behandlingen vil uundgåeligt udvikle resistens med tiden. Der er derfor et presserende behov for nye biomarkører i prostatakraft for at kunne forbedre behandlingen.

Et nyt ph.d.-projekt fra Aarhus Universitet, Health, har til formål at identificere nye biomarkører for PC med fokus på epigenetik, RNA ekspression og genetiske varianter i både væv og cirkulerende cellefrit tumor DNA. Projektet har fundet nye biomarkører i både tidlig og sen-stadie PC der kan forbedre behandlingen af PC patienter. Projektet er gennemført af Maibritt Nørgaard, der forsvare det d. 16/12 2020 kl. 13.

Forsvaret af ph.d.-projektet er offentligt og finder sted d. 16/12-2020 kl. 13.00. online via Zoom. Såfremt COVID-19 situationen tillader det, vil der også blive afholdt et fysisk forsvar for et begrænset publikum på Molekylær Medicinsk Afdeling. Titlen på projektet er "Identification of novel biomarkers in prostate cancer to improve clinical management". For online deltagelse i forsvaret kontakt venligst Ph.d.-studerende Maibritt Nørgaard, e-mail: [mno@clin.au.dk](mailto:mno@clin.au.dk), tlf. 60291849.

Bedømmelsesudvalg:

Professor Boe Sandahl Sørensen, Department of Clinical Biochemistry and Department of Clinical Medicine, Aarhus University, Denmark

Associate Professor Gerda Egger, Clinical Institute of Pathology, Medical University of Vienna, Austria

Professor Mads Thomassen, Clinical Genome Center, Department of Clinical Genetics, Odense University Hospital, Denmark

Press release (English)

Identification of novel biomarkers in prostate cancer to improve clinical management

Prostate cancer (PC) is the most common non-skin cancer and the 3rd leading cause of cancer-related deaths in Western countries. Localized prostate cancer is curable with surgery (radical prostatectomy, RP) or radiation, but current diagnostic and prognostic tools are suboptimal, resulting in overtreatment of indolent PCs and insufficient treatment of aggressive PCs. The 5-year survival of

localized PC is close to 100% but drops to around 30% in metastatic PC. Some patients relapse after curative intended treatment, while others present with metastatic disease at diagnosis. In the metastatic setting, multiple life-prolonging treatments have been approved, but response rates are low and patients who initially respond eventually acquire resistance. Thus, there is an urgent need for novel biomarkers in PC throughout the disease course to improve the clinical management of PC.

The aim of this PhD project was to identify novel biomarkers for PC focussing on epigenetics, transcriptomi, and genomic variants in tissue and circulating cell-free DNA. In this project, novel biomarkers for both early- and late-stage PC that can improve the clinical management has been identified. The project was carried out by Maibritt Nørgaard who is defending her dissertation on december 16<sup>th</sup> 2020.

The defence is public and takes place online via Zoom on december 16<sup>th</sup> at 13:00. If the COVID-19 situation allows, a physical defence with limited attendance will be held at Department of Molecular Medicine. The title of the project is "Identification of novel biomarkers in prostate cancer to improve clinical management". Please contact ph.d. student Maibritt Nørgaard to get access to the defense. Email: mno@clin.au.dk, Phone +45 60291849.

Assessment committee:

Professor Boe Sandahl Sørensen, Department of Clinical Biochemistry and Department of Clinical Medicine, Aarhus University, Denmark

Associate Professor Gerda Egger, Clinical Institute of Pathology, Medical University of Vienna, Austria

Professor Mads Thomassen, Clinical Genome Center, Department of Clinical Genetics, Odense University Hospital, Denmark

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