

Press release

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Basic information

Name: Marianne Trier Bjerre Email: mtbjerre@clin.au.dk Phone: 51892581

Department of: Clinical Medicine

Main supervisor: Professor, Karina Dalsgaard Sørensen

Title of dissertation: DNA methylation biomarkers for prostate cancer. Identification and evaluation of blood-based methylation biomarkers.

Date for defence: 16/9 2020 at (time of day): 13.00 Place: Online via Zoom (Meeting ID: 977 774 7373)

<https://aarhusuniversity.zoom.us/j/9777747373>

Press release (Danish)

Identifikation og evaluering af biomarkører til brug i en blodtest for prostatakræft.

Prostatakræft er den hyppigste kræftform hos danske mænd og karakteriseret ved et meget varieret genetisk og klinisk sygdomsbillede. En god risikostratificering og individuel behandlingsstrategi er derfor vigtig. PSA er i dag den vigtigste biomarkør for PCa, men PSA har en lav specificitet og vi mangler bedre biomarkører til brug ved både diagnose, prognose og monitorering af sygdommen. Cellens DNA-methyleringsmønster ændres under udviklingen af kræft, inklusiv prostatakræft. Kræftceller frigiver små DNA-fragmenter til blodbanen, kendt som cirkulerende tumor DNA (ctDNA). Ændret methylerings mønster i ctDNA har derfor potentiale som en blodprøve baseret biomarkør for prostatakræft.

Formålet med dette nye PhD. projekt var at identificere nye blodbaserede biomarkør for prostatakræft og herefter at evaluere deres kliniske potentiale i sygdommens forskellige stadier.

Resultaterne er sammenfattet i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Marianne Trier Bjerre, der forsvare det d. 16/9

Forsvaret af ph.d.-projektet er offentligt og finder sted den 16/9 kl. 13.00 online via zoom, Aarhus Universitets Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N.

Såfremt COVID-19 situationen tillader det, vil der også blive afholdt et fysisk forsvar for et begrænset publikum på Aarhus Universitets Hospital – kontakt undertegnede for nærmere information.

Titlen på projektet er "DNA methylation biomarkers for prostate cancer. Identification and evaluation of blood-based methylation biomarkers". Yderligere oplysninger: Ph.d.-studerende Marianne Trier Bjerre, e-mail: mtbjerre@clin.au.dk, tlf. 51892581.

Bedømmelsesudvalg:

Lektor Lise Lotte Hansen, Institut for Biomedicin, Aarhus Universitet, Danmark.

Professor Per Guldberg, Kræftens bekæmpelse, Danmark

Professor Anders Bjartell, Institut for Translational Medicine, Lund Universitet & Urologisk afdeling, Skåne Universitets Hospital, Malmö, Sweden.

Press release (English)

Identification and evaluation of blood-based DNA methylation biomarkers for prostate cancer.

Prostate cancer is the second most common cancer among males worldwide, and it is both clinically and molecularly heterogeneous. Individual risk stratification and treatment strategies are critical, and biomarkers are key factor in prostate cancer treatment. Prostate-specific antigen (PSA) is the most

commonly used biomarker for diagnosis, prognosis and monitoring of prostate cancer. However, lack of prostate cancer specificity of PSA is a clinical challenge, and better diagnostic, prognostic and predictive biomarkers for prostate cancer are needed. DNA methylation patterns change during prostate cancer development and has potential as a biomarker for prostate cancer. Furthermore, tumours are known to seed tumour DNA, circulating tumour DNA (ctDNA), into the bloodstream. Analysis of circulating tumor DNA (ctDNA) in plasma provides an opportunity for non-invasive “real time” sampling of tumor DNA: A so-called liquid biopsy. One way of distinguishing ctDNA from non-tumor DNA is the presence of tumor-specific aberrant DNA methylation. Aberrant ctDNA methylation reveals potential as cancer-specific minimal invasive biomarkers with potential use throughout PCa development and treatment.

The aims of this new PhD study were to identify new prostate cancer-specific biomarkers, based on DNA methylation, with a blood-based testing potential, and evaluate their clinical use in different disease stages of prostate cancer. The results are presented in a new PhD project carried out by Marianne Trier Bjerre, who is defending her dissertation on 16/9.

The defence is public and takes place on 16/9 at 13.00 virtual at zoom, Aarhus University Hospital, Palle Juul Jensens Boulevard 99, 8200 Aarhus N. And, if the COVID-19 situation allows it, in combination with a physical defence for a reduced number of people at Aarhus University Hospital. The title of the project is DNA methylation biomarkers for prostate cancer. For more information, please contact PhD student Marianne Trier Bjerre, email: mtbjerre@clin.au.dk, Phone +45 51892581.

Assessment committee:

Associate Professor Lise Lotte Hansen, Department of Biomedicine, Aarhus University, Denmark.
Professor Per Guldberg, Danish Cancer Society Research Center, Copenhagen.
Professor in Urology, Senior Consultant Anders Bjartell, Department of Translational Medicine, Medical Faculty, Lund University & Department of Urology, Skåne University Hospital, Malmö, Sweden.

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