Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Jens Kelsen

Title of dissertation: Circulating cell-free DNA in patients with hepatocellular carcinoma or neuroendocrine tumors

Date for defence: January 8th at (time of day): 13.00 Place: AUH C114-101, Zoom: https://aarhusuniversity.zoom.us/j/61476523994

Press release (Danish)

Cirkulerende cellefrit DNA hos patienter med primær leverkræft eller neuroendokrine tumorer

Der er stigende interesse for at undersøge blodbaserede biomarkører i relation til tidlig opsporing af kræft, monitorering af behandlingsrespons, prognose og til at personalisere behandling. Et nyt PhD-projekt fra Aarhus Universitet, Health har undersøgt cellefrit DNA i blod som en mulig markør for prognose og monitorering af behandling i primær leverkræft og neuroendokrine tumorer. Projektet har undersøgt en udbredt mutation (TERT) i primær leverkræft, og fundet at patienter, der har DNA i blodet med denne mutation (44%) har en dårligere prognose, end patienter uden denne mutation i blodet. Projektet undersøgte også patienter, der havde skrumpelever uden kræft, og ingen af disse patienter havde mutationen i blodet. Endvidere undersøgte projektet om man kunne øge detektionsraten af en anden betydende mutation ved primær leverkræft, ved både at undersøge væv fra kræftknuden og blod. Resultaterne af studierne peger på, at man i en fremtid med et bredt udvalg af behandlinger, kan personalisere behandlingen ved hjælp af undersøgelser af mutationer i blodet.

Projektet undersøgte endvidere, hvordan den totale mængde af cellefrit DNA i blodet fordeler sig hos patienter med neuroendokrine tumorer, og hvordan sammenhængen er mellem cellefrit DNA og risiko for progression af sygdom og overlevelse.

Samlet bidrager studierne til at øge kendskabet til anvendeligheden af cellefrit DNA fra blodprøver i primær leverkræft og neuroendokrine tumorer, og kan bane vejen for, at undersøgelse af cellefrit DNA inkluderes i fremtidige studier af disse kræftformer.
Projektet er gennemført af Stine Karlsen Ovesø, der forsvarer det ved et offentligt online event d. 8. januar 2021.

Pressemeddelelsen - afsluttes med: Forsvaret af ph.d.-projektet er offentligt og finder sted den 8. januar 2021 kl. 13.00, og kan tilgåes online via Zoom (https://aarhusuniversity.zoom.us/j/61476523994)
Titlen på projektet er "Circulating cell-free DNA in patients with hepatocellular carcinoma or neuroendocrine tumors". Yderligere oplysninger: Ph.d.-studerende Stine Karlsen Oversø, e-mail: stinkarl@rm.dk, tlf. (+45) 22793193.

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Press release (English)

Circulating cell-free DNA in patients with hepatocellular carcinoma or neuroendocrine tumors

There is an increasing interest in investigating blood-based biomarkers in relation to early detection of cancer, monitoring of treatment responses, prognosis and the ability to personalise treatment. A new PhD project from Aarhus University, Health has examined cell-free DNA in blood as a possible marker for prognosis and monitoring of treatment in the two cancers, primary liver cancer and neuroendocrine tumors.

The project INVESTOGATED a widespread mutation (TERT), found in primary liver cancer, and observed that patients who have circulating cell-free DNA in the blood carrying this mutation (44%) have a worse prognosis than patients who do not have this mutation in the blood. The project also examined patients who had cirrhosis of the liver without cancer, and none of these patients had the mutation in their blood. In addition, the project assesed whether it was possible to increase the detection rate of another significant mutation seen in primary liver cancer by analysing both tissue from the cancer and blood.
The studies indicate that in a future with a wide range of treatments, it is possible to personalise treatment with the help of analyses of tumor mutations in the blood.

Further, the project determined the level of cell-free DNA in the blood among patients with neuroendocrine tumors, and how the relationship was between cell-free DNA and the risk of progression of disease and survival.

All together, the studies contribute to increasing awareness of the applicability of cell-free DNA from blood samples in primary liver cancer and neuroendocrine tumors, and can pave the way for inclusion of cell-free DNA in future studies of these cancer forms.

The project was carried out by Stine Karlsen Oversø, who is defending her dissertation on January 8th 2021, at 13.00 at an online event.

The press release - ending with: The defence is public and takes place on January 8th 2021, at 13.00. Acces via Zoom (https://aarhusuniversity.zoom.us/j/61476523994). The title of the project is "Circulating cell-free DNA in patients with hepatocellular carcinoma or neuroendocrine tumors". For more information, please contact PhD student Stine Karlsen Oversø, email: stinkarl@rm.dk, Phone +45 2279 3193.

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