

Press release

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Basic information

Name: Line Brøndum

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Department of: Clinical Medicine

Main supervisor: Jan Alsner

Title of dissertation: Blood-borne biomarkers in head and neck cancer

Date for defence: December 14, 2017 at (time of day): 14.00 Place: K-auditorium, Bygning 7
Aarhus Universitetshospital, Nørrebrogade 44, 8000 Aarhus C

Press release (Danish)

Blodbårne biomarkører hos patienter med hoved-hals kræft

Et nyt ph.d.-projekt fra Afdeling for Eksperimentel Klinisk Onkologi, Aarhus Universitetshospital, bidrager med ny viden om, mulige biomarkører i blodet hos hoved-hals kræft patienter, der kan være med til at identificere de patienter, der vil have størst gavn af behandlingen. Projektet er gennemført af Line Brøndum, der forsvare det d. 14/12.

Hoved-hals kræfts genetik og mikromiljø er vigtige faktorer, der påvirker tumorens aggressivitet og effekten af behandlingen. En bedre forståelse af interaktionen mellem genetik, immunsystem og tumorceller samt identifikation af biomarkører forbundet med prognose og behandlingsrespons er vigtige for at forbedre behandlingsresultatet og vælge patienter til den rigtige behandling og undgå unødvendig toksicitet samt på sigt udvikle nye behandlingsstrategier. Formålet med dette projekt var at identificere sådanne mulige markører ved en simpel blodprøve. Blodprøver fra forskellige patientgrupper med hoved-hals kræft blev undersøgt for genetiske forandringer, vækstfaktorer og cytokiner og sammenholdt med effekten af behandlingen. Da der ved anvendelse af arkiverede blodprøver er begrænsninger, der skal tages højde for, er der desuden lavet analyser af indflydelsen af typen af blodprøve samt håndteringen blodprøverne på udfaldet af målingerne. De fleste hoved-hals kræft tumorer udtrykker receptoren EGFR, som er associeret til en dårligere prognose og dårligere effekt af behandlingen. En almindelig bivirkning ved behandling rettet mod EGFR, er udvikling af hududslæt, der har været forbundet med bedre effekt af behandlingen. Derfor er betydningen af hududslæt under behandling rettet mod EGFR også undersøgt. Undersøgelserne tyder på, at moderat til svært hududslæt var associeret med forbedret overlevelse og at visse genetiske forandringer tyder på at være relateret til udvikling af hududslæt. Vi fandt desuden, at der findes en sammensætning af biomarkører, der kan hjælpe med at identificere patienter med mindre risiko for tilbagefald hos den undergruppe af patienterne der har tumorer associeret med human papilloma virus.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 14/12 kl. 14 i K-auditorium, Bygning 7 Aarhus Universitetshospital, Nørrebrogade 44, 8000 Aarhus C. Titlen på projektet er "Blodbårne biomarkører hos patienter med hoved-hals kræft". Yderligere oplysninger: Ph.d.-studerende Line Brøndum, e-mail: line@oncology.au.dk, tlf. 617775677.

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Press release (English)
Blood-borne biomarkers in head and neck cancer

A new PhD project from the Department of Experimental Clinical Oncology, Aarhus University Hospital, contributes new knowledge about potential blood-borne biomarkers in head and neck cancer patients, which can help identify the patients who will benefit the most from treatment. The project was carried out by Line Brøndum, defending it on 24/12.

The genetics and micro-environment of head and neck cancer are important factors that affect the aggressiveness of the tumor and the effect of treatment. A better understanding of the interaction between genetics, the immune systems and tumor cells, as well as identification of biomarkers associated with prognosis and treatment response, are important in improving treatment outcomes and selecting patients for the correct treatment, avoiding unnecessary toxicity and developing new treatment strategies. The purpose of this project was to identify such possible markers by a simple blood test. Blood samples from different patient groups with head and neck cancer were examined for genetic alterations, growth factors and cytokines and compared with the effect of treatment. As the use of archived blood samples have limitations to be taken into account, analyzes of the influence of the these factors have been made. Most head and neck tumors express the receptor EGFR, which is associated with a worse prognosis and a poorer effect of treatment. A common side effect of anti-EGFR treatment is the development of a skin rash which has been associated with a better effect of treatment. Therefore, the importance of skin rash during treatment directed at EGFR was also investigated. The studies indicate that moderate to severe skin rash was associated with improved survival and that certain genetic changes suggest to be related to skin rash development. Additionally we found that there is a combination of biomarkers that can help identify patients with decreased risk of relapse, in the subset of patients, who have tumors associated with human papilloma virus.

The defense of the PhD project is public and takes place on 14/12 at. 14.00 in K-auditorium, Building 7 Aarhus University Hospital, Nørrebrogade 44, 8000 Aarhus C. The title of the project is "Blood-borne biomarkers in patients with head and neck cancer". Further information: PhD student Line Brøndum, e-mail: line@oncology.au.dk, tel. 61775677.

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