

Press release

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Basic information

Name: Gitte Brinch Andersen Email: Gitteba@biomed.au.dk Phone: 30433317

Department of: Biomedicine

Main supervisor: Lise Lotte Hansen

Title of dissertation: "DNA methylation and miRNA expression changes are key players in osteosarcoma tumorigenesis"

Date for defence: Thursday the 5th of April 2018 at (time of day): 13 Place: Auditorium 1 in Bartholin Building (Build. 1241, lok. 135)

Press release (Danish)

Identifikation af omfattende epigenetiske ændringer i knoglekræft der rammer børn

Osteosarkom er en aggressiv knoglekræft, der primært rammer børn og unge, hvoraf mange dør kort tid efter diagnosen. Diagnosen stilles ofte meget sent, da symptomerne nemt forveksles med "vokseværk", hvorved kræften allerede har spredt sig hos mange af patienterne. Kun 10-40% af de patienter, der har spredning af kræften til andre organer, er i live efter 5 år.

Der er meget lidt viden om årsagerne til knoglekræft, så der er et stort behov for mere forskning i denne sygdom, for at opnå en bedre helbredelsesrate for disse meget unge patienter.

I kræftceller sker der ofte fejl i de mekanismer, der regulerer hvilke gener, der er tændte og slukkede (epigenetik), og der slukkes ofte for gener, der normalt forhindrer kræftudvikling, hvorved cellen bl.a. mister sin normale vækstkontrol.

Gitte Brinch Andersen har under sit PhD forløb analyseret epigenetiske forandringer i osteosarkom og raske knogleceller og har identificeret gener, der er fejlregulerede i det berørte væv hos patienterne. Disse resultater har givet banebrydende viden om de grundlæggende mekanismer, der fører til udvikling og spredning af denne type knoglekræft, og bidrager til en optimistisk fremtid for implementering af nye behandlingsstrategier for disse unge patienter.

Disse resultater er fremkommet via et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Gitte Brinch Andersen, der forsvarer sin afhandling d. 5/4-2018.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 5/4-2018 kl. 13 i Bartholin Bygningen, Auditorium 1 (Bygn. 1241, lok. 135), Aarhus Universitet, Wilhelm Meyers Allé 4, 8000 Aarhus C. Titlen på projektet er "DNA methylation and miRNA expression changes are key players in osteosarcoma tumorigenesis". Yderligere oplysninger: Ph.d.-studerende Gitte Brinch Andersen, e-mail: gitteba@biomed.au.dk, tlf. 30433317.

Bedømmelsesudvalg:

Professor Stephan Beck, Medical Genomics, University College London Cancer Institute, UK

Professor Per Guldberg, Center for Kræftforskning, Kræftens Bekæmpelse, Danmark

Professor Karina Dalsgaard Sørensen, Molekylær Medicinsk Afdeling (MOMA), Aarhus Universitets Hospital, Danmark (Formand)

Lektor Lise Lotte Hansen, Institut for Biomedicin, Aarhus Universitet, Danmark (Hovedvejleder)

Press release (English)

Identification of substantial epigenetic changes in bone cancer affecting children

Osteosarcoma is an aggressive tumor of the bone, primarily affecting children and young adults aged 10-20 years. The symptoms are often misjudged with "growing-pains" resulting in a late diagnosis and

a 5-year survival rate of only 10-40% for children with metastatic disease. An improvement of these survival rates has, however, not been seen for the last three decades emphasizing the urgent need for a much more comprehensive knowledge and understanding of the molecular mechanisms responsible for bone cancer development.

In cancer, errors often occur in the mechanisms controlling which genes are turned on and off (epigenetics). Genes preventing cancer development are often turned off. Gitte Brinch Andersen has during her PhD analyzed changes in the genome and identified dysregulated genes in the affected tissues of the patients. The results identified during this PhD project has provided novel insights into the mechanisms responsible for bone cancer development and metastasizing, thereby contributing to an optimistic future for implementing epidrugs as a new treatment strategy for these young patients. The project was carried out by Gitte Brinch Andersen, who is defending her dissertation on Thursday 5th of April 2018.

The defence is public and takes place on 5th of April 2018 at Auditorium 1 in The Bartholin Building, Aarhus University, Wilhelm Meyers Allé 4, Aarhus C. The title of the project is "DNA methylation and miRNA expression changes are key players in osteosarcoma tumorigenesis". For more information, please contact PhD student Gitte Brinch Andersen, email: gitteba@biomed.au.dk, Phone +45 30433317.

Assessment committee:

Professor Stephan Beck, Medical Genomics, University College London Cancer Institute, UK

Professor Per Guldberg, Cancer Genetics Lab, Danish Cancer Society, Denmark

Professor Karina Dalgaard Sørensen, Department of Molecular Medicine (MOMA), Aarhus University Hospital, Denmark (Chairman)

Associate Professor Lise Lotte Hansen, Department of Biomedicine, Aarhus University, Denmark (Main supervisor and non-voting member)

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