

Press release

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Basic information

Name: Kristian Løvvik Juul-Dam

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Department of: Clinical Medicine

Main supervisor: Professor Henrik Hasle, MD, PhD

Title of dissertation: Early Detection of Relapse of Acute Myeloid Leukemia in Children

Date for defence: 24/9/18 at (time of day): 14.00 Place: Auditorium C114-101, level 1, entrance C Aarhus University Hospital

Press release (Danish)

Tidlig opsporing af tilbagefald hos børn med akut myeloid leukæmi

Chancen for overlevelse hos børn med akut myeloid leukæmi er forbedret over de sidste årtier. Tilbagefald af sygdommen forekommer dog stadig hos ca. 30 % og udgør en alvorlig trussel mod helbredelse. Hos ca. 40 % af patienterne indeholder leukæmicellerne en kromosomforandring, som kan anvendes som biomarkør og spores i blod eller knoglemarv under behandling og opfølgning. Tidlig opsporing af truende tilbagefald ved hjælp af biomarkører muliggør forberedelse eller igangsættelse af behandling før manifest sygdom, og kan muligvis forbedre prognosen hos børn med tilbagefald.

I en international kohorte af patienter undersøgte vi stabiliteten og anvendelsen af udvalgte kromosomforandringer til tidlig opsporing af tilbagefald hos børn med akut myeloid leukæmi. Vi undersøgte en alternativ biomarkør, Wilms tumor gen 1, som kan anvendes til at påvise små mængder af restleukæmi og således muliggøre sygdomsmonitorering hos børn uden etablerede biomarkører. Ydermere fandt vi, at hyppig analyse af blod udgør et brugbart alternativ til sygdomsmonitorering i knoglemarv. Studiet er et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Kristian Løvvik Juul-Dam, der forsvare det d. 24/9/2018.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 24/9/2018 kl. 14 i auditorium C114-101, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Titlen på projektet er "Early Detection of Relapse of Acute Myeloid Leukemia in Children". Yderligere oplysninger: Ph.d.-studerende Kristian Løvvik Juul-Dam, e-mail: kristian.juul-dam@clin.au.dk, tlf. 24464274.

Bedømmelsesudvalg:

Professor Peter Hokland, cand.med, dr.med (Formand for bedømmelsesudvalget)

Klinisk Institut, Århus Universitet, Danmark

Professor Daniel Steinbach, cand.med

Pediatric Hematology and Oncology

University of Ulm, Germany

Ass. professor Edwin Sonneveld, cand.scient, ph.d.

Dutch Childhood Oncology Group

Princess Maxima Center for Pediatric Oncology, The Netherlands

Press release (English)

Early Detection of Relapse of Acute Myeloid Leukemia in Children

Prognosis in childhood acute myeloid leukemia has markedly improved during the last decades. Though, 30% of the children suffer from relapse after completion of intensive chemotherapy, and outcome after disease recurrence is fatal in the majority of cases. In 40% of the children, the leukemic cells harbor chromosomal rearrangements which may serve as disease biomarkers during therapy and follow-up. Monitoring of these biomarkers may facilitate early detection of relapse and provide an opportune window for therapy preparation or an intervention, possibly improving relapse therapy outcome.

The scope of this thesis was to investigate the stability and the applicability of chromosomal rearrangements as biomarkers for early detection of imminent relapse in children with acute myeloid leukemia. This thesis investigated if Wilms tumor gene 1 may be employed as a leukemic biomarker, which may increase the number of patients eligible for molecular disease surveillance. Furthermore, this thesis investigated whether serial biomarker measurements in peripheral blood rather than bone marrow constitute a sensitive and informative disease monitoring schedule.

The project was carried out by Kristian Løvvik Juul-Dam, who is defending his dissertation on 24/9/2018.

The defence is public and takes place on 24/9/2018 at Auditorium C114-101, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. The title of the project is "Early Detection of Relapse of Acute Myeloid Leukemia in Children". For more information, please contact PhD student Kristian Løvvik Juul-Dam, email: kristian.juul-dam@clin.au.dk, Phone +45 24464274.

Assessment committee:

Professor Peter Hokland, MD, DMSc (chairman and moderator of the defense)

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Dutch Childhood Oncology Group

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