

## Press release

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### Basic information

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Department of: Clinical Medicine

Main supervisor: Anne-Mette Hvas

Title of dissertation: The lectin pathway and coagulation in patients with an increased thrombosis risk

Date for defence: 28<sup>th</sup> May 2019 at (time of day): 14.00 Place: Aarhus Universitetshospital, Auditorium A (G206-145), entrance G6, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N

Press release (Danish)

### Samspil mellem immunforsvar og blodstørkning hos patienter med øget risiko for blodpropper

Blodpropper er en hyppig årsag til sygdom og øget dødelighed på verdensplan. Vi ved, at aktivitet i immunforsvaret kan øge risikoen for at få en blodprop, men mekanismerne bag dette samspil er ikke fuldt klarlagt. I de senere år er den del af immunforsvaret, som kaldes komplementsystemet, blevet genstand for interesse i relation til dannelse af blodpropper, men vores viden om komplementsystemets betydning for blodproppdannelse er stadig sparsom. Dette undersøges nærmere i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af læge, ph.d.-studerende Julie Brogaard Larsen, der forsvare det d. 28/05 2019.

I projektet undersøges forskellige patientgrupper, som har øget risiko for at få blodpropper: 1) patienter med alvorlig infektion og blodforgiftning, 2) raske gravide og gravide kvinder med svangerskabsforgiftning og 3) patienter med lungekræft. Hos patienter med blodforgiftning demonstrerer vi for første gang sammenhæng mellem niveauet af et af komplementsystemets proteiner, MASP-1, og påvirkning af blodets evne til at størkne. I gruppen af gravide kvinder med svangerskabsforgiftning finder vi en moderat sammenhæng mellem flere af komplementsystemets proteiner og forekomst af svangerskabsforgiftning samt påvirkning af fosterets vækst. Hos lungekræftpatienter er der ikke påvist nogen sammenhæng mellem komplementsystemets proteiner og blodets størkningsevne. Projektet påviser interessante sammenhænge og skaber ny viden på området, men resultaterne kræver eftervisning i større studier, før vi sikkert kan afgøre betydningen for diagnostik og behandling af de ovennævnte patienter. Forsvaret af ph.d.-projektet er offentligt og finder sted den 28/5 2019 kl. 14.00 i Auditorium A (G206-145), Aarhus Universitetshospital, Indgang G6, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Titlen på projektet er "The lectin pathway and coagulation in patients with an increased thrombosis risk". Yderligere oplysninger: Ph.d.-studerende Julie Brogaard Larsen, e-mail: [julie.brogaard.larsen@clin.au.dk](mailto:julie.brogaard.larsen@clin.au.dk), tlf. 4046 5766.

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Press release (English)

## The immune system and blood coagulation in patients with increased thrombosis risk

Thrombosis is an important cause of morbidity and mortality worldwide. We know that immune system activation increases thrombosis risk, but the mechanisms behind this association are not fully elucidated. In recent years, the complement system, a part of the immune system has gained increasing interest in relation to thrombosis risk. However, the exact role of the complement system in blood clot formation and thrombosis risk is still unknown. This is investigated further in the present PhD project carried out by Julie Brogaard Larsen, MD, Ph.D student, who is defending her dissertation on 28/05-2019.

In the present project, three different patient groups with increased thrombosis risk are included: 1) septic shock patients in the intensive care unit, 2) pregnant women with and without preeclampsia, and 3) lung cancer patients. For the first time, we demonstrate an association between plasma levels of the complement protein MASP-1 and blood coagulation in septic shock patients. In the group of pregnant women, we describe moderate associations between complement proteins and the presence of preeclampsia as well as foetal growth restriction. No association between the complement system and blood coagulation is found in the group of lung cancer patients. The PhD project uncovers interesting associations between the complement system and blood coagulation and contributes with new knowledge in the field, but the results should be repeated in larger cohorts before we can conclude on the implications for diagnosis and treatment in these three patient groups.

The defence is public and takes place on 28/05-2019 at 2 pm in Auditorium A (G206-145), Aarhus University Hospital, entrance G6, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. The title of the project is "The lectin pathway and coagulation in patients with an increased thrombosis risk". For more information, please contact PhD student Julie Brogaard Larsen, email: [julie.brogaard.larsen@clin.au.dk](mailto:julie.brogaard.larsen@clin.au.dk), Phone +45 4046 5766.

### Assessment committee:

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