

Press release

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Basic information

Name: Carsten Behr-Rasmussen
25318609

Email: carsten.behr.rasmussen@viborg.rm.dk Phone:

Department of: Clinical Medicine

Main supervisor: Jes S. Lindholt

Title of dissertation: Pathophysiological and potential diagnostic aspects of the mural thrombus in abdominal aortic aneurysms

Date for defence: 13/06/2017 at (time of day): 1400 Place: Lokale 21-22, Regionshospitalet Viborg, Heibergs Allé 4, 8800 Viborg

Press release (Danish)

Aflejringer af blodbestanddele på indersiden af en udposning på hovedpulsåren i maven, kan have en mulig betydning for naturhistorien af sygdommen

Aflejringer på indersiden af en udposning kan muligvis give information om naturhistorien for sygdommen udposning på hovedpulsåren i maven. Et nyt ph.d.-projekt fra Aarhus Universitet, Health har undersøgt den mulige sammenhæng mellem denne aflejring og den videre udvikling af udposninger. Projektet er gennemført af Carsten Behr-Rasmussen, der forsvarede det d. 13/06 2017.

Udposninger på hovedpulsåren eller abdominale aorta aneurismer(AAA) indeholder ofte en aflejring af blodkomponenter kaldet den intraluminale trombe (ILT). Det er ikke alle AAA, der har en ILT, men de store (over 4-5 cm) har næsten altid. ILT er i lang tid blevet betragtet som en følgetilstand til AAA, men mange mener også, at den kan være årsag til hurtigere vækst og måske også ruptur. Celler og blodbestanddele fra blodstrømmen kan sætte sig fast i tromben og blive aflejret. Via revner og mikroskopiske porer i ILT kan disse celler og blodbestanddele vandre ind mod AAA-væggen, hvor de bliver nedbrudt. Dette kan øge henfaldet af vævet og kan især nedbryde de vigtige elastiske proteiner i væggen. Grundet den kontinuerlige belastning fra pulsåretrykket giver dette udvidelse af væggen og til sidst ruptur. En anden, mere moderne anskuelse af ILT, er, at ikke alle ILT'er er ens. Dette kan især ses på magnetisk resonansscanninger (MR), samt når man høster ILT'erne ved en operation. Denne heterogenitet kan være en medvirkende årsag til, at nogle AAA vokser hurtigere end andre.

Dette Ph.d.-projekt har til hovedformål, gennem tre delstudier, at belyse ILT'en og de tilhørende AAA'er med flere forskellige metoder. Studierne omfatter et ultralydsstudie med 615 deltagere, et MR studie med 46 deltagere og slutteligt et studie hvor vævsprøver hentet ud under operationer analyseres for deres proteinsammensætning. Resultatet indikerer at ILT'en kan have en betydning for naturhistorien, men at der også virker til at være forskel på ILT'er.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 13/6 2017 kl. 1400 i Lokale 21/22, Regionshospitalet Viborg, Heibergs Allé 4, 8800 Viborg. Titlen på projektet er "Pathophysiological and potential diagnostic aspects of the mural thrombus in abdominal aortic aneurysms". Yderligere oplysninger: Ph.d.-studerende Carsten Behr-Rasmussen, e-mail: carsten.behr.rasmussen@viborg.rm.dk, tlf. +45 25318609.

Bedømmelsesudvalg:

Nikolaj Eldrup, Associate professor, PhD (formand) Hjerte, -lunge, -karkirurgisk afdeling T, Skejby Sygehus, Danmark

Stefan Acosta, Professor, PhD Klinisk Kärlforskning, Lunds Universitet, Malmö, Sweden

Jonas Eiberg, Associate professor, PhD Karkirurgisk Afdeling, Rigshospitalet, Danmark

Press release (English)

Deposition of blood components within the aortic aneurysm may have an impact on the natural history of the disease.

Deposition of blood components within the aortic aneurysm may have an impact on the natural history of the disease. A ph.d. study from Aarhus University has explored a possible association between the deposition of blood component and further evolvement of the aortic aneurysm. The project was carried out by Carsten Behr-Rasmussen, who is defending her/his dissertation on 13/06 2017.

Abdominal aortic aneurysms (AAA) often contain a deposition of blood components coined the intraluminal thrombus (ILT). Not all AAAs contain an ILT, but large AAAs (sized 4-5 cm) typically have one. The ILT has been regarded a sequela to AAA, but many also believe that it can aggravate AAA growth and possibly also increase the risk of rupture. Cells and blood components from the blood stream may become lodged in the thrombus and be deposited. Via cracks and microscopic pores in the ILT, these cells and blood components migrate towards the AAA wall where they are decomposed. This increases the breakdown of the tissue, in particular the important proteins in the elastic wall. The continuous force from the blood pressure leads to expansion of the wall until the pressure exceeds the strength of the wall, which therefore ruptures. Another, more modern theory of the ILT is that not all ILTs are alike. This is particularly evident on magnetic resonance imaging scans (MRI) and during open surgery. This heterogeneity may contribute to some AAA growing more rapidly than others. The main objective of this PhD project was to illustrate the ILT and AAA and was done in the context of three studies; An ultrasound study with 615 participants, a MRI study with 46 participants and a study investigating the protein components in tissue samples harvested from operations. The results indicate that the ILT may play a part in the natural history and that not all ILTs seem alike.

The defence is public and takes place on 13/6 2017 kl. 1400 in Lokale 21/22, Regionshospitalet Viborg, Heibergs Allé 4, 8800 Viborg. The title of the project is "Pathophysiological and potential diagnostic aspects of the mural thrombus in abdominal aortic aneurysms". For more information, please contact PhD student Carsten Behr-Rasmussen, email:carsten.behr.rasmussen@viborg.rm.dk, Phone +4525318609

Assessment committee:

Nikolaj Eldrup, Associate professor, PhD (chairman) Hjerte, -lunge, -karkirurgisk afdeling T, Skejby Sygehus, Denmark
Stefan Acosta, Professor, PhD Klinisk Kärlforskning, Lunds Universitet, Malmö, Sweden
Jonas Eiberg, Associate professor, PhD Karkirurgisk Afdeling, Rigshospitalet, Denmark

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