AARHUS UNIVERSITY

Press release

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Basic information

Name: Morten Krogh Christiansen Email: morten.christiansen@clin.au.dk Phone: 22268783

Department of: Clinical Medicine

Main supervisor: Henrik Kjærulf Jensen

Title of dissertation: Early-onset Coronary Artery Disease - Clinical and Hereditary Aspects

Date for defence: April 18th 2017 at (time of day): 13:00 Place: Auditorium B, Aarhus University Hospital (Skejby), Palle Juul-Jensens Boulevard 99, 8200 Aarhus N

Press release (Danish)

Tidlig åreforkalkning i hjertet - Kliniske og arvelige aspekter

Tidlig udvikling af åreforkalkning i hjertet (kranspulsåresygdom) er en alvorlig tilstand som ofte ophober sig i familier. Et nyt ph.d.-projekt fra Aarhus Universitet, Health, har karakteriseret denne patientgruppe og deres familier for at øge forståelsen for sygdommen og arveligheden. Projektet er gennemført af Læge Morten Krogh Christiansen, der forsvarer det d. 18/4.

I sit ph.d.-studie har Morten Krogh Christiansen undersøgt risikofaktorer, genetiske åreforkalkningsmarkører og graden af åreforkalkning hos unge patienter og familier med tidligere ballonudvidelse eller bypass-operation på hjertets kranspulsårer.

Studierne viste at yngre patienter med åreforkalkning i hjertet har flere kendte risikofaktorer så som overvægt, forhøjet forhøjet blodtryk og kolesterol som er utilstrækkeligt behandlet, og dermed medfører at disse patienter er i en unødigt høj risiko for nye hjerteanfald. De yngre patienter havde også en let øget byrde af genetiske markører for åreforkalkning men ikke nok til at kunne forklare den tidlige sygdomsdebut eller den familiære ophobning af hjertesygdom. I studierne indgik også raske slægtninge som fik undersøgt deres kranspulsårer for åreforkalkning. Det viste sig, at disse slægtninge havde en øget byrde af åreforkalkning i kranspulsårene sammenlignet med en kontrolgruppe uden familiær disposition. Specielt var mængden af fedt i åreforkalkningen hos disse slægtninge forhøjet, hvilket man ved er af betydning for udviklingen af hjerteanfald.

Studiernes fund understreger behovet for bedre kontrol med risikofaktor blandt patienter med tidlig åreforkalkning i hjertet og kan muligvis forklare hvorfor deres raske familiemedlemmer er i øget risiko for hjerteanfald. Ydermere understøtter resultaterne at vores nuværende viden om åreforkalkningsgenetik er begrænset og ikke egner sig til at forklare hvorfor nogle individer debuterer med åreforkalkning i hjertet i en tidlig alder.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 18/4 kl. 13 i Auditorium B, Aarhus University Hospital (Skejby), Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Titlen på projektet er "Early-onset Coronary Artery Disease - Clinical and Hereditary Aspects". Yderligere oplysninger: Ph.d.-studerende Morten Krogh Christiansen, e-mail: morten.christiansen@clin.au.dk, tlf. 2226 8783.

Press release (English)

Early-onset coronary artery disease - Clinical and hereditary aspects

Early-onset coronary artery disease is a serious condition, which often aggregates in families. A new PhD project from Aarhus University, Health, has characterized these patients and their families in

order to increase the understanding of the disease and heritability. The project was carried out by MD Morten Krogh Christiansen, who is defending his dissertation on April 18th.

In his PhD studies, Morten Krogh Christiansen investigated risk factors, genetic risk markers and the severity of coronary artery disease in young patients and families with a history of a percutaneous coronary intervention or coronary bypass operation.

The studies showed that young patients with coronary artery disease hold several risk factors like overweight/obesity, high blood pressure and high cholesterol levels that are insufficiently controlled, thereby increasing the risk of recurrent coronary events. Moreover, these young patients had a slightly increased burden of genetic risk markers of atherosclerosis, which, however, did not explain the unusual early onset or the familial aggregation of the disease. Healthy relatives with no prior coronary intervention were also included in the studies and their coronary arteries were studied. These relatives did also display an increased burden of coronary atherosclerosis compared with a control group with no family history. In particular, the amount of fat in the coronary atherosclerosis was increased, which is a known risk factor for the development of coronary events.

The findings emphasize the hereditary component of coronary atherosclerosis and underpin the need for risk factor optimization in early-onset coronary artery disease. Furthermore, the data support that yet identified genetic risk markers of atherosclerosis may have little clinical relevance in the clinical setting of early-onset coronary artery disease.

The defence is public and takes place on April 18th in Auditorium B, Aarhus University Hospital (Skejby), Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. The title of the project is "Early-onset coronary artery disease - Clinical and hereditary aspects". For more information, please contact PhD student Morten Krogh Christiansen, e-mail: morten.christiansen@clin.au.dk, Phone +45 2226 8783.

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