Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Evald Høj Christiansen

Title of dissertation: Percutaneous Coronary Interventions for Chronic Total Occluded Coronary Arteries

Date for defence: 06/09/2024 at (time of day): 13.30 Place: Auditorum A, G206-145, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N

Press release (Danish)

Ny forskning fra Aarhus Universitet: Behandling af kronisk lukkede kranspulsårer i hjertet

En ny ph.d.-afhandling fra Aarhus Universitet undersøger behandlingen af en alvorlig form for åreforkalkning i hjertet, hvor en af hjertets kranspulsårer er helt tilstoppet. Denne tilstand, kendt som kronisk total forsnævring (CTO), gør behandlingen vanskeligere, og det er usikkert, om den almindelige behandling med ballonudvidelse og indsættelse af en stent er effektiv hos disse patienter.

Hvad er forskningen om? Forskningen har undersøgt, om patienter med CTO, der har fået en ballonudvidelse, har samme langtidsprognose som patienter uden CTO. Derudover har forskningen også set på, om det betyder noget, hvilken kranspulsåre der behandles, og om behandlingen er omkostningseffektiv.

Hvordan er forskningen udført? To af studierne har fulgt over 21.000 patienter i Region Midtjylland, som blev behandlet fra 2009 til 2019, og sammenlignet resultaterne for dem med og uden CTO. Omkostningseffektiviteten blev undersøgt med hjælp af både internationale og nationale registre. Resultaterne blev til sidst brugt til at designe et randomiseret kontrolleret studie som aktuelt inkluderer patienter i hele Europa.

Hvorfor er det vigtigt? Resultaterne viser, at patienter med succesfuld behandling af CTO har samme prognose som patienter uden CTO. Hvis behandlingen derimod ikke lykkes, især i en bestemt kranspulsåre, ramus interventricularis anterior, er udsigterne dårligere. Forskningen viser også, at succesfuld behandling er mere omkostningseffektiv end ikke succesfuld behandling pga. bedre langtidsprognose.

Dette er et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Emil Nielsen Holck, der forsvarer det d. 6/9-2024.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 6/9 kl. 13.30 i Auditorium A G206-145, Aarhus Universitets Hospital, Palle Juul-Jensens Boulevard, 8200 Aarhus N. Titlen på projektet er ”Percutaneous Coronary Interventions for Chronic Total Occluded Coronary Arteries”. Yderligere oplysninger: Ph.d.-studerende Emil Nielsen Holck, e-mail: eh@clin.au.dk.

Bedømmelsesudvalg: Ivy Susanne Modrau, Chair, MD, PhD, Associate Professor, Department of Thoracic Surgery, Aarhus University Hospital. Lorenzo Azzalini, MD, PhD, Associate Professor, University of Washington Medical Center, Seattle, USA. Tuomas Rissanen, MD, PhD, Docent, Associate Professor, The Hear Centre, North Karelia Central Hospital, Siunsote, Joensuu, Finland

Press release (English)

AARHUS UNIVERSITY

New Research from Aarhus University: Treatment of Chronic Total Occluded Coronary Arteries

A new PhD thesis from Aarhus University investigates the treatment of a severe form of atherosclerosis in the heart, where one of the coronary arteries is completely blocked. This condition, known as chronic total occlusion (CTO), makes treatment more challenging, and it is uncertain whether the standard treatment with balloon angioplasty and stent placement is effective for these patients.

What is the research about? The research examined whether patients with CTO who have undergone balloon angioplasty have the same long-term prognosis as patients without CTO. Additionally, the study investigated whether it matters which coronary artery is treated and whether the treatment is cost-effective.

How was the research conducted? Two of the studies followed over 21,000 patients in the Central Denmark Region who were treated from 2009 to 2019, comparing the outcomes for those with and without CTO. The cost-effectiveness was analyzed with the help of both international and national registries. Finally, the results were used to design a randomized controlled trial that currently includes patients across Europe.

Why is it important? The results show that patients with successful CTO treatment have the same prognosis as patients without CTO. However, if the treatment is unsuccessful, especially in a specific coronary artery, the left anterior descending artery, the prognosis is worse. The research also shows that successful treatment is more cost-effective than unsuccessful treatment due to better long-term prognosis.

This is a new PhD project from Aarhus University, Health. The project has been conducted by Emil Nielsen Holck, who will defend it on September 6, 2024.

The press release - ending with: The defence is public and takes place on 6/9 at 13.30 in Auditorium A G206-145, Aarhus Universitets Hospital, Palle Juul-Jensens Boulevard, 8200 Aarhus N. The title of the project is Percutaneous Coronary Interventions for Chronic Total Occluded Coronary Arteries. For more information, please contact PhD student Emil Nielsen Holck, email: eh@clin.au.dk

Assessment committee: Ivy Susanne Modrau, Chair, MD, PhD, Associate Professor, Department of Thoracic Surgery, Aarhus University Hospital. Lorenzo Azzalini, MD, PhD, Associate Professor, University of Washington Medical Center, Seattle, USA. Tuomas Rissanen, MD, PhD, Docent, Associate Professor, The Hear Centre, North Karelia Central Hospital, Siunsote, Joensuu, Finland

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