

## Press release

Please fill in this form and return it to [graduateschoolhealth@au.dk](mailto:graduateschoolhealth@au.dk) in Word format no later than three weeks prior to your defence.

### Basic information

Name: Trine Ørhøj Barkholt Email: [trio@clin.au.dk](mailto:trio@clin.au.dk) Phone: +45 20700638

Department of: Clinical Medicine

Main supervisor: Evald Høj Christiansen, MD, PhD, Associate professor

Title of dissertation: Treatment of coronary bifurcation lesions; clinical aspects, imaging and the use of bioresorbable scaffolds

Date for defence: 28-02-2020 at (time of day): 13:00 Place: Conference Room, Department of Cardiology, Aarhus University Hospital

Press release (Danish)

**Behandling af bifurkaturforsnævninger i hjertets kranspulsårer; kliniske aspekter, billeddannelse og brugen af bionedbrydelige stents**

Behandling af hjerte-kar-sygdom med ballonudvidelse og indsættelse af stents er generelt sikker og effektiv. Bifurkaturforsnævninger, hvor blodkarret deler sig i et hovedkar og et sidekar, udgør dog ofte en behandlingsmæssig udfordring. Et nyt ph.d.-projekt fra Aarhus Universitet, Health har undersøgt forskellige teknikker til optimering af bifurkaturbehandling. Projektet er gennemført af Trine Ørhøj Barkholt, der forsvare det på Aarhus Universitetshospital d. 28/02 2020.

Behandlingen af bifurkaturforsnævninger i hjertets kranspulsårer er kompleks. Forskellige teknikker kan potentielt medvirke til at forbedre behandlingen. I dette projekt har Trine Ørhøj Barkholt undersøgt mulighederne for at optimere bifurkaturbehandling med brugen af en intravaskulær skanningsteknik, optisk koherens tomografi, samt med brugen af bionedbrydelige stents. Bionedbrydelige stents har teoretiske fordele ved bifurkaturbehandling sammenlignet med standard permanente metalstents, men en ny særligt lovende bioresorberbar stent har indtil nu ikke været velundersøgt til bifurkaturbehandling. Projektet undersøgte ydermere ballonadgang gennem en stent og ud i sidekarret under bifurkaturbehandling - et vigtig aspekt for optimal behandling. De tekniske udfordringer ved dette er nu blevet karakteriseret for første gang. Resultaterne af ph.d. projektet kan medvirke til forbedret behandling af patienter med bifurkaturforsnævninger i hjertets kranspulsårer.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 28/02 kl. 13.00 i konferencerummet, Hjertesygdomme, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 99, Aarhus N. Titlen på projektet er "Treatment of coronary bifurcation lesions; clinical aspects, imaging and the use of bioresorbable scaffold". Yderligere oplysninger: Ph.d.-studerende Trine Ørhøj Barkholt, e-mail: [trio@clin.au.dk](mailto:trio@clin.au.dk), tlf.+45 2070 0638.

Bedømmelsesudvalg:

Hans-Henrik Kimose, MD, PhD, Associate professor, consultant in Cardiac surgery  
Department of Cardiothoracic and Vascular surgery  
Aarhus University Hospital, Aarhus, Denmark

Dr Angela Høye, MB, ChB, PhD, FRCP  
Reader and Honorary Consultant in Cardiology  
Centre for Atherothrombosis and Metabolic Disease  
Hull, York Medical School  
University of Hull, Hull, United Kingdom

Professor Alf Inge Larsen

Head of Cardiovascular interventions  
Head of Cardiovascular research  
Stavanger University Hospital, Stavanger, Norway

Press release (English)

Treatment of coronary bifurcation lesions; clinical aspects, imaging and the use of bioresorbable scaffold

Treatment of coronary artery disease by balloon dilatation and stent implantation is generally safe and effective. However, the treatment of bifurcation lesions where the vessel branches into a main branch and a side branch is challenging. Therefore, different optimization techniques for treatment of bifurcation lesions were evaluated. The project was carried out by Trine Ørhøj Barkholt, who is defending her dissertation on 28/02 2020.

Treatment of bifurcation lesions is quite complex and leaves room for improvement. Different techniques can be used to optimize treatment. In this project, Trine Ørhøj Barkholt investigated the potential for optimizing bifurcation treatment by use of an intracoronary imaging modality, optical coherence tomography, and by use of bioresorbable scaffolds. Bioresorbable scaffolds have potential theoretical advantages for treatment of bifurcation lesions compared to the standard permanent metallic stents, however a new promising bioresorbable scaffold have not been investigated for bifurcation treatment until now. Furthermore, the project investigated balloonaccess through a stent and into the side branch during bifurcation treatment - an important aspect for optimal treatment. The technical challenges have now been characterized for the first time. The results of the PhD project may help improve treatment of coronary bifurcation lesions.

The defence is public and takes place on 28/02 2020 at 13.00 in Conference Room, Department of Cardiology, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Aarhus N. The title of the project is: "Treatment of coronary bifurcation lesions; clinical aspects, imaging and the use of bioresorbable scaffolds". For more information, please contact PhD student Trine Ørhøj Barkholt, email: trio@clin.au.dk, Phone +45 2070 0638.

Assessment committee:

Hans-Henrik Kimose, MD, PhD, Associate professor, consultant in Cardiac surgery  
Department of Cardiothoracic and Vascular surgery  
Aarhus University Hospital, Aarhus, Denmark

Dr Angela Hoye, MB, ChB, PhD, FRCP  
Reader and Honorary Consultant in Cardiology  
Centre for Atherothrombosis and Metabolic Disease  
Hull, York Medical School  
University of Hull, Hull, United Kingdom

Professor Alf Inge Larsen  
Head of Cardiovascular interventions  
Head of Cardiovascular research  
Stavanger University Hospital, Stavanger, Norway

## **Permission**

By sending in this form:

- I hereby grant permission to publish the above Danish and English press releases.
- I confirm that I have been informed that any applicable inventions shall be treated confidentially and shall under no circumstances whatsoever be published, presented or mentioned prior to submission of a patent application, and that I have an obligation to inform my head of department and the university's Patents Committee if I believe I have made an

invention in connection with my work. I also confirm that I am not aware that publication violates any other possible holders of a copyright.