AARHUS UNIVERSITY

Press release

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

Basic information

Name: Charlotte Stephansen Email: stephansencharlotte@gmail.com Phone: 0045 51 32 92 13

Department of: Clinical Medicine

Main supervisor: Jens Cosedis Nielsen

Title of dissertation: Electrically Guided versus Imaging-Guided Left Ventricular Lead Targeting in Cardiac Resynchronization Therapy

Date for defence: 08.03.2019 at (time of day): 14.00 Place: Auditorium B, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Entrance G6 (G206), 8200 Aarhus N

Press release (Danish)

Hjertesvigtspatienters hjertepumpe-funktion forbedres yderligere ved elektrisk vejledt elektrodeplacering ved biventrikulær pacemakerbehandling

Hos udvalgte patienter med hjertesvigt kan behandling med en biventrikulær pacemaker forbedre hjertets pumpefunktion. Imidlertid har 30% af patienterne ikke mærkbar effekt af behandlingen. Det kan bl.a. skyldes suboptimal placering af elektroden til det venstre hovedkammer. I dette ph.d.-studie blev 122 patienter tilfældigt fordelt til placering af elektroden til venstre hovedkammer enten elektrisk vejledt eller vejledt af ultralyd, CT og myokardieskintigrafi. Patienterne blev fulgt i 6 måneder. Studiets hovedresultat var at hjertets pumpefunktion gennemsnitligt blev øget med 11% ved elektrisk vejledt placering til sammenligning med en gennemsnitlig øgning på 7% ved billevejledt placering. Effekten af behandlingen målt på andre parametre samt komplikationsraterne var sammenlignelige mellem grupperne. Hvorvidt elektrisk vejledt elektrode-anlæggelse rutinemæssigt kan anbefales må afvente større studier. Det viser et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Charlotte Stephansen, der forsvarer det d. 08/03/2019.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 08/03/2019 kl. 14.00 i Auditorium B, Aarhus Universitetshospital, Indgang G6 (G206), Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Titlen på projektet er "Electrically Guided versus Imaging-Guided Left Ventricular Lead Targeting in Cardiac Resynchronization Therapy". Yderligere oplysninger: Ph.d.-studerende Charlotte Stephansen, e-mail: stephansencharlotte@gmail.com, tlf. 51 32 92 13.

Bedømmelsesudvalg: Johan Heiberg, associate professor, Hjerte-, Lunge- og Karkirurgi, Aarhus Universitetshospital, Aarhus. Peter Søgaard, professor, overlæge, ph.d., dr.med., Kardiologisk Afdeling, Aalborg Universitetshospital, Aalborg. David Arnar, MD, PhD, EMPH, Chief of Cardiology, Department of Cardiology, Landspitali – The National University Hospital, Reykjavik, Iceland.

Press release (English)

Heart pump function in heart failure patients receiving biventricular pacemaker treatment is increased by electrically guided implantation of the left ventricular lead

The project was carried out by Charlotte Stephansen, who is defending her dissertation on 08/03/2019.

Treatment with biventricular pacemaker is indicated for selected heart failure patients, and is known to improve heart pump function. However, 30% of patients fail to derive clinical benefit from the treatment. Among others, the reason for non-response could be suboptimal placement of the left ventricular lead. In this PhD study, 122 patients were randomized to either electrically guided or imaging-guided (cardiac CT, echocardiography and myocardial perfusion imaging) implantation of

the left ventricular lead during implantation of biventricular pacemakers. Patients were followed for six months. The main result was that the heart pump function increased by 11% when using the electrically guided implantation strategy as compared with a 7% increase when using the imaging-guided strategy. Outcome measured by other parameters including complication rate was comparable between groups. Larger studies are indicated to investigate if electrically guided left ventricular lead positioning can be reccommended as routine implatation procedure. These results stem from a PhD project from Aarhus University, Health. The defence is public and takes place on 08/03/2019 at 14.00 in Auditorium B, Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Entrance G6 (G206), 8200 Aarhus N. The title of the project is "Electrically Guided versus Imaging-Guided Left Ventricular Lead Targeting in Cardiac Resynchronization Therapy". For more information, please contact PhD student Charlotte Stephansen, email: stephansencharlotte@gmail.com, Phone +45 51 32 92 13.

Assessment committee: Johan Heiberg, associate professor, Department of Thoracic and Cardiovascular Surgery, Aarhus University Hospital, Aarhus, Denmark. Peter Søgaard, Professor, MD, PhD, DMSc, Department of Cardiology, Aalborg University Hospital, Aalborg, Denmark. David Arnar, MD, PhD, EMPH, Chief of Cardiology, Department of Cardiology, Landspitali – The National University Hospital, Reykjavik, Iceland.

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.