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Press release

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Basic information

Name: Bodil Gade Hornstrup Email: bodil.hornstrup@rm.dk Phone: 61669627

Department of: Clinical Medicine

Main supervisor: Jesper Nørgaard Bech

Title of dissertation: Nocturnal blood pressure in patients with chronic kidney disease, in patients with hypertension and in healthy controls – the influence of obstructive sleep apnoea and renal function.

Date for defence: February 1st 2019 at (time of day): 14.00 Place: Foredragssal 1, Regionshospitalet Holstebro (indgang U)

Press release (Danish)

Når blodtrykket ikke falder om natten - har søvnapnø og nyrefunktion betydning?

Blodtryksfald fra dag til nat er et normalt fænomen hos raske mennesker. Hos nogle er denne normale regulation forstyrret, hvilket medfører manglende natligt blodtryksfald. Forhøjet blodtryk, især manglende natligt blodtryksfald, har betydning som risikofaktorer for sygdom og død relateret til hjertekarsygdom. Risikoen stiger med blodtryksniveauet. Tilstedeværelsen af obstruktiv søvnapnø er også forbundet med øget risiko hjertekarsygdom og blodtryksforhøjelse.

Manglende blodtryksfald om natten ses især hos patienter med nedsat nyrefunktion, en patientgruppe der har en øget forekomst af obstruktiv søvnapnø. Det er uklart, hvordan disse tilstande (nyrefunktion og obstruktiv søvnapnø) har betydning for det natlige blodtryksfald.

Det var derfor formålet med studierne i dette ph.d.-projekt at undersøge sammenhængen mellem det natlige blodtryk (og døgnblodtrykket) målt med forskellige metoder, graden af nedsat nyrefunktion og forekomsten af obstruktiv søvnapnø, dels hos patienter med nedsat nyrefunktion, dels hos patienter med forhøjet blodtryk og hos raske kontrolpersoner. Endvidere gennemførtes et interventionsstudie, idet patienter, der fik konstateret obstruktiv søvnapnø i moderat til svær grad blev tilbudt CPAP-behandling (natmaskine) med henblik på at undersøge effekten af behandling af obstruktiv søvnapnø på blodtrykket.

Resultaterne viste, at der var øget forekomst af natlig blodtryksforhøjelse og søvnapnø hos patienter med nedsat nyrefunktion. Den øgede forekomst af natlig blodtryksforhøjelse og obstruktiv søvnapnø kunne bedst forklares ved klassiske livsstilsfaktorer og risikofaktorer og ikke graden af nyrefunktionsnedsættelse. CPAP-behandling havde gunstig effekt på blodtrykket.

Resultaterne fra projekterne er sammenfattet i et nyt ph.d.-projekt fra Universitetsklinikken for Nyresygdomme og Blodtryksforhøjelse, Hospitalsenheden Vest og Aarhus Universitet, Health. Projektet er gennemført af Bodil Gade Hornstrup, der forsvarer det d. 1/2-2019.

Forsvaret af ph.d.-projektet er offentligt og finder sted d. 1/2-2019 kl.14.00 i Foredragssal 1, Regionshospitalet Holstebro, indgang U, Lægardvej 12. Titlen på projektet er Nocturnal blood pressure in patients with chronic kidney disease, in patients with hypertension and in healthy controls – the influence of obstructive sleep apnoea and renal function.
Yderligere oplysninger: Ph.d.-studerende Bodil Gade Hornstrup, e-mail:bodil.hornstrup@rm.dk, tlf. 61669627.

Bedømmelsesudvalg:

Mark Reinhard, chief physician, assistant professor, PhD, Department of Renal Medicine, Aarhus University Hospital and Department of Clinical Medicine, Faculty of Health, Aarhus University
Lia Bang, chief Physician, PhD, Department of Cardiology, Rigshospitalet, University of Copenhagen
Jan Hedner, chief physician, professor, PhD, Sleep and Wake Disorders, Department of Internal Medicine, University of Gothenburg, Sweden and Pulmonary Medicine, Sahlgrenska University Hospital, Gothenburg, Sweden

Press release (English)

When the blood pressure does not fall at night - does sleep apnea and kidney function matter?

Blood pressure decrease from day to night is a common phenomenon in healthy human. In some humans, this normal regulation is disturbed which leads to a lack of nocturnal blood pressure decrease. High blood pressure, especially lack of nocturnal blood pressure decrease, is important as risk factor for cardiovascular disease and death. The risk increases with blood pressure level. The presence of obstructive sleep apnea is also associated with increased risk of cardiovascular disease and high blood pressure.

Lack of blood pressure decrease at night is seen especially in patients with impaired renal function. This patient population also have an increased incidence of obstructive sleep apnoea. It is unclear how these conditions (renal function and obstructive sleep apnoea) affect nocturnal blood pressure decrease.

Therefore, the aim of the studies in this PhD project was to investigate the correlation between the nocturnal blood pressure (and 24 hour blood pressure) measured by different methods, the degree of renal function impairment and the incidence of obstructive sleep apnoea in patients with impaired renal function, in patients with high blood pressure, and in healthy controls. In addition, an intervention study was conducted in which patients diagnosed with moderate to severe obstructive sleep apnoea were offered CPAP treatment to investigate the effect of treatment of obstructive sleep apnoea on blood pressure.

The results showed that there was an increased incidence of high nocturnal blood pressure and obstructive sleep apnoea in patients with impaired renal function. The increased incidence of high nocturnal blood pressure and obstructive sleep apnoea could best be explained by classic lifestyle factors and risk factors and not by the degree of renal function impairment. CPAP treatment had a beneficial effect on blood pressure.

The results from the studiess are summarized in a new PhD project from University Clinic in Nephrology and Hypertension, Regional Hospital West Jutland and Aarhus University, Health. The project was carried out by Bodil Gade Hornstrup, who is defending her dissertation on February 1st 2019.

The defence is public and takes place on February 1st, 2019 at 2.00 PM in Foredragssal 1, Regionshospitalet Holstebro, entrance U, Lægårdvej 12. The title of the project is Nocturnal blood pressure in patients with chronic kidney disease, in patients with hypertension and in healthy controls – the influence of obstructive sleep apnoea and renal function.

For more information, please contact PhD student Bodil Gade Hornstrup, e-mail: bodil.hornstrup@rm.dk, tlf. +45 61669627.

Assessment committee:
Mark Reinhard, chief physician, assistant professor, PhD, Department of Renal Medicine, Aarhus University Hospital and Department of Clinical Medicine, Faculty of Health, Aarhus University
Lia Bang, chief Physician, PhD, Department of Cardiology, Rigshospitalet, University of Copenhagen
Jan Hedner, chief physician, professor, PhD, Sleep and Wake Disorders, Department of Internal Medicine, University of Gothenburg, Sweden and Pulmonary Medicine, Sahlgrenska University Hospital, Gothenburg, Sweden

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