AARHUS UNIVERSITY

Press release

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Basic information

Name: Anne Sofie Korsholm Nielsen Email: korsholm@clin.au.dk Phone: 78467729

Department of: Clinical Medicine

Main supervisor: Steen Bønløkke Pedersen

Title of dissertation: Intermittent hypoxia as a model for obstructive sleep apnea. Studies on inflammation, glucose metabolism, and effects of resveratrol

Date for defence: 7.2.2018 at (time of day): 13.00 Place: Auditorium 1, Indgang 4A, Aarhus Universitetshospital, Tage-Hansens Gade 2, 8000 Århus C

Press release (Danish)

Undersøgelse af de metaboliske konsekvenser ved obstruktiv søvnapnø

Obstruktiv søvnapnø er kendetegnet ved gentagne pauser i vejrtrækningen under søvn, hvor de øvre luftveje klapper sammen og iltmætningen i blodet falder. Konsekvenserne af disse fald i iltmætning for kroppens metabolisme undersøges i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Anne Sofie Korsholm Nielsen, der forsvarer det d. 07/02-2018.

Obstruktiv søvnapnø er ud over at være forbundet med søvnighed om dagen og reduceret livskvalitet, koblet til nedsat levetid og følgesygdomme som sukkersyge, fedtlever og hjertekarsygdomme. Det vides ikke med sikkerhed hvordan søvnapnø kan inducere disse følgesygdomme, men undersøgelser tyder på at dele af immunforsvaret er aktivt, hvorved der skabes en betændelsesreaktion (low-grade inflammation). Det er foreslået, at betændelsesreaktionen er et resultat af de gentagne anfald af lav iltmætning (intermitterende hypoxi) under søvn, som er karakteristisk for søvnapnøen.

Dette ph.d. projekt har via celleforsøg, dyreforsøg og et kliniske forsøg undersøgt metaboliske forandringer induceret af alternerende iltmætning og bidrager med ny og vigtig indsigt i forståelsen af de potentielle bagvedliggende mekanismer og involverede væv/organer. Standardbehandlingen af søvnapnø, natlig CPAP-maske-behandling, er ikke en mulighed for alle. Projektet har yderligere undersøgt stoffet resveratrols potentiale for at modvirke de negative følgevirkninger til søvnapnø.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 07/02-2018 kl. 13.00 i Auditorium 1, Aarhus Universitetshospital, Tage-Hansens Gade 2, 8000 Aarhus C. Titlen på projektet er "Intermittent hypoxia as a model for obstructive sleep apnea. Studies on inflammation, glucose metabolism, and effects of resveratrol". Yderligere oplysninger: Ph.d.-studerende Anne Sofie Korsholm Nielsen, e-mail: korsholm@clin.au.dk, tlf. 78467729.

Bedømmelsesudvalg:

Lektor, DMSc, PhD Torben Laursen; Biomedicinsk Afdeling, Vilhelm Meyers Allé 4, 8000 Aarhus C, Danmark

Dr Ez-Zoubir Amri; Institute of Biology, Valrose, (Tour Fasteur, Faculté de Médecine), France

Lektor, PhD Jeppe Gram; Institut for Regional Sundhedsforskning, Syddansk Universitet, Campusvej 55, 5230 Odense M, Danmark

Press release (English)

AARHUS UNIVERSITY

Investigations of the metabolic consequences of obstructive sleep apnea

Obstructive sleep apnea is characterized by repetitive breathing cessations during sleep due to collapse of the upper airways with concomitant intermittent reductions in blood oxygenation. The consequences of these blood oxygenation reductions on metabolic health are examined in a new PhD project from Aarhus University, Health. The project was carried out by Anne Sofie Korsholm Nielsen, who is defending her dissertation on February 7th 2018.

In addition to being associated with excessive daytime sleepiness and reduced quality of life, obstructive sleep apnea is associated with co-morbidities such as diabetes, fatty liver disease, and cardiovascular disease. To date it remains uncertain how sleep apnea can induce these co-morbidities, yet studies propose low-grade inflammation to play an important role. It has been suggested that this low-grade inflammation is a result of the repeated episodes of reduction in blood oxygenation.

Through cell cultures experiments, animal studies, and a clinical study the PhD project has examined the metabolic changes induced by intermittent oxygen reductions and provides new and important insight into understanding the underlying mechanisms and involved tissues/organs. Furthermore, the project investigated the potential of the compound, resveratrol, to counteract these negative consequences of sleep apnea.

The defence is public and takes place on the February 7th at 1 PM in Auditorium 1, Aarhus Universityhospital, Tage-Hansens Gade 2, 8000 Aarhus C. The title of the project is "Intermittent hypoxia as a model for obstructive sleep apnea. Studies on inflammation, glucose metabolism, and effects of resveratrol". For more information, please contact PhD student Anne Sofie Korsholm Nielsen, email: korsholm@clin.au.dk Phone +45 7846 7729.

Assessment committee:
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