

Press release

Please fill in this form and return it to graduateschoolhealth@au.dk in Word format along with a portrait photo in JPEG format, if you would like it to accompany your press release, no later than three weeks prior to your defence.

Basic information

Name: Ann Bjørnshave Email: ann.bjoernshave@clin.au.dk Phone: +45 21666679

Department of: Clinical Medicine

Main supervisor: Kjeld Hermnsen, Professor, DrMedSci

Title of dissertation: Acute effects of a pre-meal of whey proteins on postprandial lipaemia and glucose metabolism in subjects with metabolic syndrome and type 2 diabetes

Date for defence: Spetember 21th 2018 at (time of day): 13:30 Place: Auditorium B, indgang G6, G206, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard, 8200 Aarhus N.

Press release (Danish)

Akutte effekter ved et præ-måltid af valleproteiner på postprandiel lipæmi og glukose stofskiftet hos personer med metabolisk syndrom og type 2 diabetes.

Hjertekarsygdom er en af de vigtigste og mest forekommende årsager til død. Ved siden af traditionelle risikofaktorer for hjertekarsygdom, er en høj koncentration af fedt i blodet efter et måltid en uafhængig risikofaktor for hjertekarsygdom. Hjertekarsygdom kan forebygges ved nedsættelse af forhøjet fedt i blodet, hvilket er afgørende hos især højrisiko personer som eks. personer med metabolisk syndrom og type 2 sukkersyge.

Kost er en af de vigtigste faktorer man kan ændre i forhold til blodsukker og fedtstofskiftet. Kvaliteten af proteiner og fedt i kosten påvirker koncentrationen af sukker og fedt i blodet efter et måltid.

Valleproteiner fra mælk har en positive indflydelse på metabolisk syndrom og type 2 sukkersyge. I dette projekt var det overordnede formål, at undersøge om et let måltid (præ-måltid) af valleproteiner indtaget forud for et fedtholdigt måltid kunne nedsætte koncentrationen af fedt i blodet efter måltidet hos personer med metabolisk syndrom og type 2 sukkersyge. Vi har udført tre kliniske studier, hvor vi fokuserede på fire faktorer – dosis, tid, protein kvalitet og sygdomsgrad – der potentielt påvirker effekten af præ-måltidet. For første gang er effekten af et let måltid undersøgt efter et fedtrigt måltid. Vi fandt manglende effekt på fedt koncentrationen i blodet, mens der var stimulerende effekt på insulin sekretionen efter måltidet samt en forsinkelse af mavetømmingshastigheden. Studiet er et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Ann Bjørnshave, der forsvarede det d. 21/9 2018.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 21/9 2018 kl. 13:30 i Auditorium B, indgang G6, G206, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard, 8200 Aarhus N. Titlen på projektet er Acute effects of a pre-meal of whey proteins on postprandial lipaemia and glucose metabolism in subjects with metabolic syndrome and type 2 diabetes. Yderligere oplysninger: Ph.d.-studerende Ann Bjørnshave, e-mail: ann.bjoernshave@clin.au.dk, tlf. 21 66 66 79.

Bedømmelsesudvalg:

Lektor Kristian Overgaard, Institut for Folkesundhed – Idræt, Aarhus Universitet, Aarhus, Danmark (formand).

Professor Emma Stevenson, Institut for Cellular Medicin, Newcastle Universitet, Newcastle, Storbritannien.

Professor Christian Mølgaard, Institut for Idræt og Ernæring, Københavns Universitet, København, Danmark.

Press release (English)

Acute effects of a pre-meal of whey proteins on postprandial lipaemia and glucose metabolism in subjects with metabolic syndrome and type 2 diabetes

Cardiovascular disease is one of the most important and frequent causes of death. Besides the traditional cardiovascular disease risk factors high concentration of triglycerides in the blood after a meal is an independent risk factor for cardiovascular disease. Reduction of increased triglycerides, as a part of cardiovascular disease prevention, is therefore pivotal. Especially in groups with increased risk of cardiovascular disease, like metabolic syndrome and type 2 diabetes.

Diet is one of the most important modifiable factors to postprandial glucose and lipid metabolism. The quality of dietary protein and fat influences the magnitude of postprandial glucose and lipids both in persons with or without type 2 diabetes. Whey proteins from milk possess a positive impact on metabolic syndrome and type 2 diabetes. In the present project the overall aim was to investigate if a small snack (pre-meal) of whey proteins consumed prior to a fat-rich meal can reduce the concentration of triglycerides in the blood after the meal in subjects with disturbed metabolism e.g. metabolic syndrome and type 2 diabetes. We performed three clinical trials, where we focused four factors - dose, timing, protein quality and degree-of-illness – that may influence the potential effect of a pre-meal. For the first time the effect of a small snack has been examined after a fat-rich meal. We observed no effect on the concentration of lipids in the blood, but there was a stimulatory effect of insulin secretion after the meal and a delay in gastric emptying. The project was carried out by Ann Bjørnshave, who is defending her dissertation on 21/9 2018.

The press release - ending with: The defence is public and takes place on 21/9 2018 at 13:30 in Auditorium B, entrance G6, G206, Aarhus University Hospital, Palle Juul-Jensens Boulevard, 8200 Aarhus N. The title of the project is Acute effects of a pre-meal of whey proteins on postprandial lipaemia and glucose metabolism in subjects with metabolic syndrome and type 2 diabetes. For more information, please contact PhD student Ann Bjørnshave, email: ann.bjoernshave@clin.au.dk, Phone +45 21 66 66 79.

Assessment committee:

Associate professor Kristian Overgaard, Section for Sport Science, Department for Public Health, Aarhus University, Aarhus, Denmark (formand).

Professor Emma Stevenson, Institute of Cellular Medicine, Newcastle University, Newcastle, UK.

Professor Christian Mølgaard, Department of Nutrition, Exercise and Sport Science, University of Copenhagen, Copenhagen, Denmark.

Permission

By sending in this form:

- I hereby grant permission to publish the above Danish and English press releases as well as any submitted photo.
- 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.