

Press release

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Basic information

Name: Mia Roest Christensen Email: mila@forens.au.dk Phone: 2274 7922

Department of: Forensic Medicine

Main supervisor: Mogens Johannsen

Title of dissertation: Elucidating the metabolic fingerprint behind ischemic conditioning

Date for defence: 07.12.2017 at (time of day): 13:15 Place: Science Center Skejby, Brendstrupgaardsvej 21, bygning E, stueetage, 8200 Aarhus N

Press release (Danish)

Regulering af metabolismen under iskæmisk konditionering

Effekten af iskæmisk konditionering på kroppens metabolisme blev undersøgt i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Mia Roest Christensen, der forsvarede det d. 07/12

Blodpropper er et stadigt stigende problem på verdensplan. Iskæmisk konditionering er en billig, effektiv og ikke-invasiv måde at beskytte organer mod de skader, som blodpropper forårsager. Selvom der er blevet forsket intensivt i mekanismerne bag den beskyttende effekt, så er disse stadig ukendte. Tidligere har forskning fokuseret på, hvordan proteiner og enzymer ændres af iskæmisk konditionering, men i den seneste tid er der opstået en stigende interesse for, hvordan metabolismen ændres. Dette ph.d. studie har netop undersøgt, hvordan niveauerne af metabolitter ændres af iskæmisk konditionering, for at komme mekanismerne bag den beskyttende effekt nærmere. Studiet er blandt de første, der undersøger dette uden at have forudbestemte antagelser om, hvilke metabolitter der kan forventes at være reguleret. Derfor kan ph.d. studiet primært kategoriseres som et hypotesedannende studie, der kan bane vejen for fremtidig forskning. Udover at kortlægge metabolitter, der reguleres af iskæmisk konditionering, ledte studiet også til opdagelsen af en ny mulig markør for manglende tilførsel af ilt og næringsstoffer. En bedre forståelse for mekanismerne bag iskæmisk konditionering vil forhåbentligt kunne reducere de skader, der opstår ved blodpropper og således være til gavn for den generelle folkesundhed.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 07/12 kl. 13:15 i auditoriet, Science Center Skejby, Brendstrupgårdvej 21, bygning E, stueetagen, 8200 Aarhus N. Titlen på projektet er "Elucidating the metabolic fingerprint behind ischemic conditioning". Yderligere oplysninger: Ph.d.-studerende Mia Roest Christensen, e-mail: mila@forens.au.dk, tlf. 2274 7922.

Bedømmelsesudvalg:

Tuulia Hyötyläinen, PhD, Professor ved Institut for Naturvidenskab og Teknik, Örebro Universitet, Örebro, Sverige

Henrik Lauritz Frandsen, PhD, Seniorforsker ved Fødevareinstituttet, Danmarks Tekniske Universitet, Kgs Lyngby, Danmark

Peter Bross, PhD (formand for bedømmelsesudvalget), Associate professor ved Institut for Klinisk Medicin - Molekylær Medicinsk Forskningsenhed, Aarhus Universitet, Aarhus, Danmark

Press release (English)

The regulation of metabolism in ischemic conditioning

The protective effect of ischemic conditioning was investigated with the focus of how the metabolism is regulated by the intervention. The project was carried out by Mia Roest Christensen, who is defending her dissertation on 07/12.

Heart attacks constitute an increasing health problem worldwide. Ischemic conditioning is a cheap, effective, and non-invasive method to protect organs against injuries induced by heart attacks. Although intensely investigated, the mechanism of this protective phenomenon remains poorly understood. While most research has concentrated on proteins and enzymatic reactions, a growing interest of how the metabolism is affected has emerged. Accommodating this interest, the present PhD study has focused on the investigation of how metabolites are regulated by ischemic conditioning to elucidate the mechanisms behind the protective effect. The study is among the first to investigate this without any prior assumptions of which metabolites could be expected to be regulated. This mainly categorizes the present PhD study as a hypothesis-generating study forming the base for future investigations of protection of the heart. Besides mapping metabolite regulations of ischemic conditioning, the present PhD study led to the discovery of a potential novel marker of ischemia. A better understanding of the mechanisms behind ischemic conditioning will hopefully reduce disease and death caused by heart attacks to benefit the general public health.

The defence is public and takes place on 07/12 at 13:15 in the Auditorium at Science Center Skejby, Brendstrupgårdvej 21, building E, ground floor, 8200 Aarhus N. The title of the project is "Elucidating the metabolic fingerprint behind ischemic conditioning". For more information, please contact PhD student Mia Roest Christensen, email: mila@forens.au.dk, Phone +45 2274 7922.

Assessment committee:

Tuulia Hyötyläinen, PhD, Professor at School of Science and Technology, Örebro University, Örebro, Sweden

Henrik Lauritz Frandsen, PhD, Senior Researcher at National Food Institute, Technical University of Denmark, Kgs Lyngby, Denmark

Peter Bross, PhD (chairman of the committee), Associate professor at Department of Clinical Medicine - Molecular Research Unit, Aarhus University, Aarhus, Denmark

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