

Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Professor Jens Otto Lunde Jørgensen, MD, DMSc, Department of Endocrinology and Internal Medicine, AUH

Title of dissertation: Lipolytic Effects of Growth Hormone in Human Subjects in vivo: Molecular mechanisms and temporal patterns

Date for defence: 21/01/2020 at (time of day): 10-12 Place: Auditorium J110, Aarhus University Hospital, Palle Juul-Jensens Blvd. 99, 8200 Aarhus, Denmark

Press release (Danish)

Lipolytiske effekter af væksthormon i mennesker

Et nyt ph.d.-projekt fra Aarhus Universitet, Health undersøger i to humane in vivo studier effekten af væksthormon på lipolyse, lipoprotein lipase aktivitet og insulin resistens. Projektet er gennemført af Astrid Johannesson Hjelholt, der forsvare det d. 21/01

Væksthormon har en række vigtige metaboliske egenskaber, foruden postnatal længdevækst. Disse effekter er dominerende i den postabsorptive fase og under faste, og udgør aktivering af lipolyse, nedsat lipid optag i fedtvæv på grund af suppression af lipoprotein lipase aktivitet og nedsat insulin sensitivitet. Hovedformålet med ph.d.-projektet var at undersøge de molekulære mekanismer bag væksthormons effekt på lipolyse, insulin resistens samt lipoprotein lipase aktivitet. Undersøgelserne viste, at disse effekter hænger sammen og involverer en hæmning af anti-lipolytiske signaler i fedtcellen. Overordnet giver studierne en ny og væsentlig viden om lipid metabolisme og insulin resistens, som er vigtig i forståelsen af metabolisk syndrom, insulin resistens og diabetes mellitus type 2.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 21/01 kl. 10 i Auditorium J110, Aarhus Universitetshospital, Indgang J, plan 1, Palle Juul-Jensens Boulevard 99, 8200 Aarhus N. Titlen på projektet er "Lipolytic Effects of Growth Hormone in Human Subjects in vivo: Molecular mechanisms and temporal patterns". Yderligere oplysninger: Ph.d.-studerende Astrid Johannesson Hjelholt, e-mail: ajhlin.au.dk, tlf. +45 24 80 06 64.

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Press release (English)

Lipolytic effects of growth hormone in human individuals

In two human in vivo studies, the effects of growth hormone on lipolysis, lipoprotein lipase activity and insulin resistance are investigated. The project was carried out by Astrid Johannesson Hjelholt, who is defending her dissertation on 21/01.

Growth hormone elicits important metabolic actions in addition to stimulation of postnatal longitudinal growth. The metabolic effects predominate in the post-absorptive state and during fasting, and include stimulation of lipolysis, decreased lipid storage in adipose tissue due to suppression of lipoprotein lipase activity and reduced insulin sensitivity. The main aim of the PhD-project was to investigate the molecular mechanisms underlying the effects of growth hormone on lipolysis, insulin resistance and lipoprotein lipase activity. The investigations demonstrated that these effects are connected and involve abrogation of antilipolytic signals in adipose tissue. The studies provide insight into lipid metabolism and fatty acid driven insulin resistance, which is of importance for understanding the metabolic syndrome, insulin resistance and type 2 diabetes mellitus.

The defence is public and takes place on 21/01 at 10 in Auditorium J110, Aarhus University Hospital, Entrance J, level 1, 99 Palle Juul-Jensens Boulevard, DK-8200 Aarhus N. The title of the project is "Lipolytic Effects of Growth Hormone in Human Subjects in vivo: Molecular mechanisms and temporal patterns". For more information, please contact PhD student Astrid Johannesson Hjelholt, e-mail: ajhlin.au.dk, Phone +45 24 80 06 64.

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