

Press release

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Basic information

Name: Morten Lyng Høgild Email: mhp@clin.au.dk Phone: +45 78462144

Department of: Clinical Medicine

Main supervisor: Coordinating Clinical Professor and Chair Jens Otto Lunde Jørgensen

Title of dissertation: Growth Hormone activity in obese subjects: interaction with insulin sensitivity and fasting

Date for defence: 15 December 2017 at (time of day): 12:00 Place: M-auditorium, building 3a, 2nd floor, Norrebrogade 44, DK-8000 Aarhus C.

Press release (Danish)

Væksthormons metaboliske effekter hos overvægtige under faste

Væksthormon er et anabolt hormon, som stimulerer proteinsyntesen via insulin-like growth factor I (IGF-I), der primært produceres i leveren. Væksthormon har også metaboliske effekter på omsætningen af sukker og fedt, hvilket særligt kommer til udtryk under stresstilstande som fx faste. Et nyt ph.d.-projekt fra Aarhus Universitet, Health, bidrager med ny viden om væksthormons metaboliske effekter hos overvægtige. Projektet er gennemført af Morten Lyng Høgild, der forsvarer sin afhandling d. 15/12.

I sin afhandling har Morten Lyng Høgild undersøgt de metaboliske effekter af henholdsvis blokering af væksthormonreceptorerne hos overvægtige under langvarig faste samt væksthormonstimulering hos overvægtige under kortvarig faste. Studierne viser, at overvægtige har en bevaret følsomhed overfor væksthormons stimulerende effekt på fedtforbrændingen samt hæmmende effekt på insulinfølsomheden i muskelvævet. Dette forekommer på trods af et lavere væksthormonsniveau under faste. Studierne viser yderligere, at overvægtige har en øget følsomhed overfor væksthormons negative indvirkning på leverens insulinfølsomhed. Overvægtige har samtidig en øget følsomhed overfor den væksthormon-afhængige produktion af IGF-I i leveren.

Væksthormon har således en bevaret evne til at stimulere fedtnedbrydningen samt en øget evne til at hæmme proteinnedbrydningen hos overvægtige. Morten Lyng Høgilds arbejde har således interessante perspektiver for forståelsen af væksthormons eventuelle betydning for udviklingen af overvægt samt væksthormons eventuelle terapeutiske anvendelse til behandling af overvægt i kombination med et nedsat kalorieindtag.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 15/12 kl. 12.00 i M-auditorium, Aarhus Universitetshospital, Nørrebrogade 44, 8000 Aarhus. Titlen på projektet er "Growth Hormone activity in obese subjects: interaction with insulin sensitivity and fasting". Yderligere oplysninger: Ph.d.-studerende Morten Lyng Høgild, e-mail: mhp@clin.au.dk, tlf. 78462144.

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Press release (English)
Metabolic effects of growth hormone during fasting

Growth hormone is an anabolic hormone that stimulates protein synthesis via insulin-like growth factor I (IGF-I), which is primarily produced in the liver. Furthermore, growth hormone exerts metabolic effects on lipid and glucose turnover. These effects are especially important during stressful conditions such as fasting. A recent PhD project from Aarhus University, Health, contributes with new knowledge about the metabolic effects of growth hormone in overweight and obesity. The project was carried out by Morten Lyng Høgild, who is defending his dissertation on 15/12.

In his dissertation Morten Lyng Høgild has investigated the metabolic effects of growth hormone receptor blockade in obese subjects during prolonged fasting as well as growth hormone stimulation in obese subjects during short term fasting, respectively. These studies demonstrate that obese subjects have a preserved responsiveness for the stimulating effect of growth hormone on lipid degradation and the inhibitory effect on insulin sensitivity in muscle tissue. This occurs, however, in the presence of blunted growth hormone levels. Furthermore, these studies demonstrate that obese subjects have an increased sensitivity for the inhibitory effect of growth hormone on insulin sensitivity in the liver together with the growth hormone-dependent production of IGF-I in the liver.

Accordingly, growth hormone has a preserved ability to stimulate lipid turnover as well as an increased ability to inhibit protein degradation in obesity. Hence, the studies performed by Morten Lyng Høgild have interesting perspectives for understanding the potentially impact of growth hormone on the development of obesity along with its potentially therapeutic application in the treatment of obesity in combination with calorie restriction.

The defence is public and takes place on 15/12 at 12:00 in M-auditorium, Aarhus Universitet Hospital, Norrebrogade 44, 8000 Aarhus. The title of the project is Growth Hormone activity in obese subjects: interaction with insulin sensitivity and fasting. For more information, please contact PhD student Morten Lyng Høgild, email: mhp@clin.au.dk, Phone +45 78462144.

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