

## **Press release**

### **Basic information**

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**Department of:** Clinical Medicine

**Main supervisor:** Associate Professor Rikke KJ Olsen

### **Title of dissertation:**

Mitochondrial dysfunction in an inborn error of metabolism and in patients with unexplained chronic fatigue

**Date for defence:** 19/05/2020 at (time of day): 10:00am Place: Via ZOOM

### **Press release (Danish):**

#### **Mitokondriel dysfunktion i en medfødt metabolisk sygdom og i patienter med uforklarig kronisk træthed**

Træthed er en almindelig komorbiditet ved de fleste sygdomme. Patienter beskriver ofte træthed som en mangel på energi, mental eller fysisk udmattelse og nødvendigheden af en langvarig restitution efter fysisk aktivitet. Trætheden afhjælpes ikke af hvile eller søvn. Selvom mekanismerne, der ligger til grund for træthed, endnu ikke er kendte, betragtes kronisk træthed som et kardinal symptom ved medfødte mitokondriesygdomme, der skyldes genetiske fejl i cellernes energiproducerende enheder. Mitokondriel dysfunktion er derfor en mulig cellulær mekanisme til at forstå træthed. Formålet med denne ph.d.-afhandling var at undersøge mitokondriernes funktion i Myalgisk Encephalomyelitis/Kronisk Træthedssyndrom, med træthed af ukendt ætiologi og hos patienter, der lider af Multiple Acyl-CoA Dehydrogenation Deficiency (MADD), som er en medfødt mitokondriesygdom med kendt gendefekt. Resultaterne beskrives i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Ana C. Gonzalez Ebsen, der forsvarede det den. 19/5/2020.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 19/05/2020 kl. 10:00. Forsvaret bliver gennemført online. For at deltage i forsvaret, venligst kontakt ph.d.-studerende Ana C. Gonzalez Ebsen på [ac.gonzalez@clin.au.dk](mailto:ac.gonzalez@clin.au.dk) senest den 18/5.

Titlen på projektet er "Mitokondriel dysfunktion i en medfødt metabolisk sygdom og i patienter med uforklarig kronisk træthed."

Yderligere oplysninger: Ph.d.-studerende Ana C. Gonzalez Ebsen, e-mail [:ac.gonzalez@clin.au.dk](mailto:ac.gonzalez@clin.au.dk).

### **Bedømmelsesudvalg:**

Associate Professor Lise Lotte Hansen  
(Chairman) Department of Biomedicine,  
Aarhus University

Full Chair Professor Jonas Bergquist  
Department of Chemistry, Uppsala University, Sweden

Professor and Chair Chuanzhu Yan  
Department of Neurology and Neuromuscular, Center Qilu Hospital of Shandong University,  
China

PRESS RELEASE ENGLISH:

Mitochondrial dysfunction in an inborn error of metabolism and in patients with unexplained chronic fatigue

Fatigue is a common comorbidity in most diseases. Patients often describe fatigue as a lack of energy, mental or physical tiredness, and the necessity for a prolonged recovery after physical activity. However, most patients do not feel relief after rest or sleep. Even though the mechanisms underlying fatigue have yet to be unraveled, chronic fatigue is considered a hallmark of inborn errors of mitochondria, the energy producing organelles of our cells. This makes mitochondrial dysfunction a putative mechanism for investigating fatigue. The aim of this PhD dissertation was to investigate mitochondrial dysfunction in Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS), with fatigue of unknown etiology, and in patients suffering from Multiple Acyl-CoA Dehydrogenation Deficiency (MADD), which is a rare inborn error of mitochondria with known gene defect. The project was carried out by Ana C. Gonzalez Ebsen, who is defending her dissertation on 19/05/2020.

The defense is public and takes place on 19/05/2020 at kl. 10:00, online via ZOOM. To join the defense, please, contact PhD student Ana C. Gonzalez Ebsen at [ac.gonzalez@clin.au.dk](mailto:ac.gonzalez@clin.au.dk), no later than 18/5.

The title of the project is 'Mitochondrial dysfunction in an inborn error of metabolism and in patients with unexplained chronic fatigue.' For more information, please contact PhD student Ana C. Gonzalez Ebsen, email: [ac.gonzalez@clin.au.dk](mailto:ac.gonzalez@clin.au.dk)

Assessment committee:

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