Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Professor Hendrik Vilstrup

Title of dissertation: Metabolic liver functions in patients with non-alcoholic fatty liver disease

Date for defence: April 26th 2019 at (time of day): 13.15 Place: Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Entrance C, Level 1, Auditorium C114-101, 8200 Aarhus N

Press release (Danish)

Ny viden om leverens funktion hos patienter med nonalkoholisk fedtleversygdom.

Et nyt ph.d.-projekt fra Aarhus Universitet, Health, bidrager med ny viden om leverens funktion hos patienter med nonalkoholisk fedtleversygdom.

Nonalkoholisk fedtleversygdom er en af de hyppigste kroniske leversygdomme, og en fjerdedel af verdens befolkning menes at lide af sygdommen, der primært skyldes overvægt. "Den kliniske håndtering af patienter med nonalkoholisk fedtleversygdom er udfordret af, at vi stadig ved for lidt om sygdommen i dens tidligere stadier til at kunne adskille reel leversygdom fra mere eller mindre uskadelig fedtophobning i leveren", forklarer læge Peter Lykke Eriksen. "I aktuelle forskningsprojekt undersøgte vi leverfunktioner hos patienter med forskellige grader af fedtleversygdom. Disse havde alle sygdommen i tidlige symptomfri stadier før manifest leversvigt i form af skrumpelever og trods dette, fandt vi en målelig forringelse af visse leverfunktioner".

Forskerne ved Lever-, Mave-, Tarmsygdomme, Aarhus Universitetshospital undersøgte flere af leverens funktioner og viste, at visse leverfunktioner var nedsatte, mens andre var upåvirkede af sygdommen. Desuden undersøgtes leverens funktionelle arkitektur med avanceret billeddannende undersøgelse (PET-skanning med det leverspecifikke sporstof galaktose). "Vi fandt ud af at leverens unikke og livsvigtige evne til at afgifte ammoniak, i særlig grad er påvirket allerede fra tidlige sygdomsstadier, og at ved mere fremskreden sygdom forstyrres leverens normalt homogene funktionelle arkitektur", fortæller Peter Lykke Eriksen og understreger, at forskerne endnu ikke kender konsekvensen for den enkelte patient af disse ændringer i leverens funktion.

"Vores resultater understreger at selv tidlig nonalkoholisk fedtleversygdom er en regelret leversygdom med påvirkning af organfunktionen og fundene giver et nyt og unikt indblik i, hvordan leverfunktionen påvirkes ved forskellige sværhedsgrader af sygdommen. Fremtidige studier skal afklare konsekvensen for den enkelte patient af de identificerede funktionelle deffekter", afslutter Peter Lykke Eriksen.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 26. april 2019 på Aarhus Universitetshospital, indgang C, auditorium C114-101, Palle Juul-Jensens Boulevard 99, Indgang C, plan 1, 8200 Aarhus. Titlen på projektet er ”Metabolic liver functions in patients with non-alcoholic fatty liver disease”.
Yderligere oplysninger: Ph.d.-studerende Peter Lykke Eriksen, e-mail: ple@clin.au.dk, tlf. 23715703.

Bedømmelsesudvalg:
Luca Valenti, overlæge, associate professor, Department of Pathophysiology and Transplantation, Università degli Studi di Milano, Milano, Italien.

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Press release (English)

Novel insight into liver functions in patients with non-alcoholic fatty liver disease.

A new PhD project from Aarhus University, Faculty Health, provides new knowledge on metabolic functions of the liver in patients with non-alcoholic fatty liver disease.

Non-alcoholic fatty liver disease has become one of the most common chronic liver diseases, affecting an alarming one-fourth of the general population worldwide. "The clinical management of patients with non-alcoholic fatty liver disease is challenging because it has still not been firmly established whether the disease affects liver function or is just, more or less, benign fat accumulation in the liver", medical doctor Peter Lykke Eriksen explains. "In the research project we investigated various metabolic liver functions in patients with different disease stages. Despite all patients being in non-symptomatic stages before manifest liver failure in the form of cirrhosis, we detected functional deficits in certain liver functions."

The researchers at the Department of Hepatology and Gastroenterology, Aarhus University Hospital, studied several different liver functions and showed that specific functions were compromised while others were unaffected by the disease. Furthermore, the researchers investigated the functional architecture of the liver by an avanced imaging based modality (PET scan using a liver-specific galactose tracer). "We found that especially the unique and essential ability of the liver to detoxify ammonia is affected from the very early disease stages and that with more advanced disease, the homogeneous metabolic function of the liver is disrupted", Peter Lykke Eriksen says and emphasises that the researchers still do not know what consequences these changes in liver function hold for the individual patient.

"Our results strenghen the notion that even early stage non-alcoholic fatty liver disease is indeed hepatic disease with organ function impact and the results provide novel functional meaning to the different disease stages. Future studies should aim to addres what the consequences of these functional deficits are for the individual patient", concludes Peter Lykke Eriksen.

The defence is public and takes place on April 26th 2019 at 13:15 at Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Entrance C, 1. floor, Auditorium C114-101, 8200 Aarhus N. The title of the project is Metabolic liver functions in patients with non-alcoholic fatty liver disease. For more information, please contact PhD student Peter Lykke Eriksen, email: ple@clin.au.dk, Phone +45 23715703.

Assessment committee:

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