AARHUS UNIVERSITY

Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Signe Borgquist

Title of dissertation: Obesity, circulating metabolic and inflammatory biomarkers, and the clinical course of breast cancer

Date for defence: January 23, 2026 at (time of day): 3 pm Place: Aarhus University Hospital, Palle Juul-Jensens Boulevard 35, Entrance C, Level 1, Auditorium C114-101

Press release (Danish)

Svær overvægt, metaboliske og inflammatoriske biomarkerer i blodet og det kliniske forløb af brystkræft

Hvordan påvirker svær overvægt samt metaboliske og inflammatoriske markører i blodet sygdomsforløbet for patienter brystkræft? Det spørgsmål undersøger et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Jonas Busk Holm, der forsvarer det d. 23/1-2026.

Behandling af brystkræft og vurdering af prognosen bygger i dag primært på markører fra selve tumoren. Forskning tyder dog på, at markører uden for tumoren også kan påvirke sygdomsforløbet, hvilket vi har undersøgt i denne ph.d.-afhandling. Afhandlingen bygger på fire studier af kvinder uden spredning ved tidspunktet for brystkræftdiagnosen. Vi fandt blandt andet, at svær overvægt mindsker chancen for fuldt respons på kemoterapi givet inden operationen. Blodprøver viste desuden, patienter med forhøjet CRP (inflammationsmarkør) og høje HbA1c-niveauer (langtidsblodsukker) var forbundet med dårligere prognose, og at lavt LDL-kolesterol – hos kvinder uden statinbehandling – øgede risikoen for tilbagefald. Resultaterne peger samlet på, at markører uden for tumoren kan give vigtig ekstra viden og på sigt måske blive et supplement til de traditionelle tumormarkører i vurderingen af brystkræftpatienter.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 23/1-2026 kl. 15.00 i Auditorium C114-001, Indgang C, Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 35. Titlen på projektet er "Obesity, circulating metabolic and inflammatory biomarkers, and the clinical course of breast cancer". Yderligere oplysninger: Ph.d.-studerende Jonas Busk Holm, e-mail: jonasbuskholm@oncology.au.dk, tlf. 61797715.

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Press release (English)

Obesity, circulating metabolic and inflammatory biomarkers, and the clinical course of breast cancer

How does obesity and circulating metabolic and inflammatory biomarkers affect the clinical cours of breast cancer? This is the focus of a new PhD project from Aarhus University, Health. The project was carried out by Jonas Busk Holm, who is defending his dissertation on 23/01-2026.

Treatment of breast cancer and the assessment of prognosis is today primarily based on markers from the tumor itself. However, research suggests that markers outside the tumor may also influence disease progression, which we have investigated in this PhD thesis. The thesis is based on four studies of women without spread at the time of breast cancer diagnosis. We found, for example, that severe obesity reduced the likelihood of achieving a complete response to preoperative chemotherapy. Blood tests further showed that patients with elevated CRP (an inflammation marker) and high HbA1c levels (long-term blood sugar) had a poorer prognosis, and that low LDL cholesterol – among women not using statins – increased the risk of recurrence. Overall, the results indicate that markers outside the tumor may provide important additional information and could eventually complement traditional tumor markers in breast cancer assessment.

The defence is public and takes place on 23/01-2026 at 15.00 in Auditorium C114-001, Entrance C, Aarhus University Hospital, Palle Juul-Jensens Boulevard 35. The title of the project is "Obesity, circulating metabolic and inflammatory biomarkers, and the clinical course of breast cancer". For more information, please contact PhD student Jonas Busk Holm, email: jonasbuskholm@oncology.au.dk, Phone +45 61797715.

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