

Press release

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Basic information

Name: Mette Wulf Christensen

Email: mwch@clin.au.dk Phone: +45 40500958

Department of: Clinical Medicine

Main supervisor: Niels Ulbjerg (from March 2018)
Hans Jakob Ingerslev (Until March 2018)

Title of dissertation: Are ovarian ageing and general ageing associated? An epidemiological and molecular view on the effects of early ovarian ageing

Date for defence: 23-04-2021 at (time of day): 10 AM Place: Due to Covid-19, the defence will be held via zoom

Press release (Danish)

Er æggestokkealdring associeret til en general aldring? En undersøgelse af effekterne af tidlig æggestokke aldring set ud fra et epidemiologisk og molekylært perspektiv.

Normal æggestokkealdring er karakteriseret ved et gradvist tab af de æg-follikler, der udgør æggestokke reserven, ledsaget af et samtidigt fald i æg-kvalitet udtrykt ved graviditetschance og risiko for abort. Processen resulterer i en gennemsnitlig alder for overgangsalderen på omkring 51 år. Tidlig æggestokkealdring (EOA) er karakteriseret ved et accelereret tab af æg-follikler og medfører at kvinden vil gå enten for tidligt (< 40 år) eller tidligt (< 45 år) i overgangsalder. Cirka 1 % vil opleve for tidlig overgangsalder og op til 10 % tidlig overgangsalder.

Det er velbeskrevet at for tidlig og tidlig overgangsalder er forbundet med en øget risiko for en række aldersrelaterede sygdomme, så som knogelskørhed og hjerte-kar sygdomme. Dette kunne tyde på, at EOA er forbundet til en accelereret generel aldring. Spørgsmålet er, om denne proces starter før overgangsalderen. Det er også uklart om det normale alders-relaterede samtidige fald i antallet af æg og æg-kvalitet også gælder for unge kvinder med EOA.

Antallet af æg, der høstes efter hormon stimulation af æggestokkene i forbindelse med fertilitetsbehandling (IVF) er et mål for æggestokke reserven, og kan således anvendes til at diagnosticere tidlig æggestokkealdring.

Formålet med denne afhandling var derfor at undersøge risiko for alders-relaterede sygdomme samt at evaluere æg-kvaliteten i form af risiko for graviditetstab hos unge kvinder diagnosticeret med EOA. Hypotesen om en aldringsproces der starter før overgangsalderen hos disse kvinder blev søgt belyst ved evaluering af to aldringsbiomarkører. Resultaterne er sammenfattet i et nyt ph.d. projekt fra Aarhus Universitet, Health. Projektet er gennemført af Mette Wulf Christensen, der forsvare det d. 23/4-2021.

Forsvaret af ph.d.-projektet er offentligt og finder sted online den 23 april kl 10. For deltagelse i det virtuelle forsvar kontakt venligst Mette Wulf Christensen: mwch@clin.au.dk
Titlen på projektet er "Are ovarian ageing and general ageing associated? An epidemiological and molecular view on the effects of early ovarian ageing". Yderligere oplysninger: Ph.d.-studerende Mette Wulf Christensen, e-mail: mwch@clin.au.dk , tlf. 40500958.

Bedømmelsesudvalg:

Erik Ernst, Professor, MD, DMSc, (Formand)

Department of Biomedicine, Health, Aarhus University, Denmark

Anja Pinborg, Professor, DMSc, Chief Consultant
Fertility Centre, Department of Obstetrics and Gynecology
Rigshospitalet, Copenhagen University Hospital, Denmark

Nick Macklon, MD, MB ChB
London Womens's Clinic
London, United Kingdom

Press release (English)

Are ovarian ageing and general ageing associated? An epidemiological and molecular view on the effects of early ovarian ageing

Normal ovarian ageing (NOA) describes the age-related process of a gradual loss of follicles concomitant with a decline in oocyte quality represented by decreasing fecundity and increasing risk of pregnancy loss and will result in menopause around the age of 51 years. Early ovarian ageing (EOA) characterizes the idiopathic accelerated loss of primordial follicles forming the ovarian reserve and will cause either premature (< 40 years) or early menopause (< 45 years). Approximately 1 % of the female population will have premature menopause and up to 10 % early menopause.

Increased risk of several health consequences such as cardiovascular diseases (CVD) have been associated with premature and early menopause when compared to the risk in women with normal menopausal age, suggesting an accelerated general ageing process associated to EOA. The onset of this process may start before menopause. While the normal age-dependent decrease in oocyte quantity is known to be associated with a simultaneous decrease of oocyte competence, this has been less clear in young women with EOA.

Early ovarian ageing may be diagnosed during fertility treatment with Assisted Reproductive Techniques (ART) by harvest of few oocytes after ovarian stimulation.

The present thesis therefore aimed to investigate the general health and to assess oocyte competence in young women diagnosed with EOA. Additionally, two biomarkers of ageing were evaluated to explore a hypothesis of an early premenopausal biological ageing in these women. The project was carried out by Mette Wulf Christensen, who is defending her dissertation on 23/4-2021.

The defence is public and takes place on 23/4-2021 on zoom. For zoom link please contact Mette Wulf Christensen: mwch@clin.au.dk. The title of the project is: Are ovarian ageing and general ageing associated? An epidemiological and molecular view on the effects of early ovarian ageing. For more information, please contact PhD student Mette Wulf Christensen, email: mwch@clin.au.dk Phone +45 40500958.

Assessment committee:

Erik Ernst, Professor, MD, DMSc, (Chairman)
Department of Biomedicine, Health, Aarhus University, Denmark

Anja Pinborg, Professor, DMSc, Chief Consultant
Fertility Centre, Department of Obstetrics and Gynecology
Rigshospitalet, Copenhagen University Hospital, Denmark

Nick Macklon, MD, MB ChB
London Womens's Clinic
London, United Kingdom

name, title and place of employment of the three members of the committee

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