AARHUS UNIVERSITY

Press release

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Basic information

Name: Lise Sofie Bislev Email: Lise.sofie@auh.rm.dk Phone: 0045 20914277

Department of: Clinical Medicine

Main supervisor: Lars Rejnmark

Title of dissertation: Cardiovascular- and musculoskeletal effects of vitamin D treatment

Date for defence: 01-11-2018 at (time of day): 14:00-16.00 Place: AUH Nord, Auditorium J116-113

Press release (Danish)

Kardiovaskulære og muskulosketale effekter af D-vitamin behandling.

Projektet er gennemført af læge, ph.d.-studerende Lise Sofie Bislev, der forsvarer det d. 1 november 2018. D-vitamin bliver traditionelt brugt til forebyggelse og behandling af knogleskørhed, men vitaminet er ligeledes beskrevet med mulige gavnlige effekter på hjertekarsystemet samt balance- og muskelfunktion. Da D-vitaminmangel er hyppigt forekommende og både nem og billig at behandle, er det derfor af stor betydning af undersøge hvorvidt en normalisering af D-vitamin niveauet er forbundet med gavnlige effekter på hjerte, kar, muskler og knogler. Dette er undersøgt i et lodtrækningsstudie, hvor 81 kvinder med D-vitaminmangel, og hormonelle forandringer på baggrund deraf, deltog. Halvdelen af kvinderne i vinterhalvåret blev behandlet med D-vitamin (70 mikrogram dagligt) mens den anden halvdel blev behandlet med placebo.
Tilskud med D-vitamin igennem tre måneder var effektivt til at normalisere D-vitamin niveauet og de hormonelle forandringer men havde ingen effekt på de fleste mål for hjertekarsundhed. Dette er i overensstemmelse med nyeste viden på området.
Overordnet i overensstemmelse med den tilgængelige viden på området, fandt vi en gavnlig effekt på nogle mål for knoglesundhed. Overraskende så vi samtidig, at et større dagligt tilskud af D-vitamin havde en skadelig effekt på muskelfunktionen vurderet både ud fra mål for muskelstyrke og fysisk formåen. Alt i alt så vi altså ikke nogen gavnlig effekt af af normalisere D-vitamin niveauet. Der er aktuelt enighed om at forebygge/behandle sværere grader af D-vitaminmangel da dette er forbundet med gavnlig effekt på knogler og muskler. Hvordan dette optimalt gøres er dog usikkert. Et stigende antal undersøgelser rapporterer negative effekter af højere doser af D-vitamin. Vores studie foreslår at virkningen af D-vitamin er kompleks og understreger at man skal tænke sig om inden man indtager/udskriver større doser. Der er fortsat et stort behov for at klarlægge hvordan man bedst behandler en D-vitaminmangel og mulige sundhedsmæssige konsekvenser heraf.
Forsvaret af ph.d.-projektet er offentligt og finder sted den 1. november 2018 kl. 14 på Aarhus Universitetshospital, Palle Juul-Jensens Blvd. 99, AUH Nord, Auditorium J116-113, Indgang J. Titlen på projektet er ”Kardiovaskulære- og muskuloskeletale effekter af D-vitamin”. Yderligere oplysninger kan fås ved kontakt til læge, ph.d.-studerende Lise Sofie Bislev, e-mail: lise.sofie@auh.rm.dk, tlf. 20914277.

Bedømmelsesudvalg:
Professor Annemarie Brüel, formand for bedømmelsesudvalget, institut for Biomedicin, Aarhus Universitet, Denmark
Professor Östen Ljunggren, Endokrinologisk Afdeling, Akademisk Hospital, Uppsala, Sweden
Lærestolsprofessor Peter Schwarz, Endokrinologisk Afdeling, Rigshospitalet, Denmark

Press release (English)
Cardiovascular- and musculoskeletal effects of vitamin D treatment

Vitamin D is traditionally used in the prevention and treatment of bone loss, but possible beneficial effects on the cardiovascular system and on muscle function are also reported. As vitamin D insufficiency is highly prevalent, easy and cheap to correct, it is of great importance to investigate whether a normalization of vitamin D deficiency is associated with beneficial effects on the heart, blood vessels, muscles and bones. Therefore, we conducted a study, in which 81 women with vitamin D insufficiency and secondary hormonal changes, participated. Half of the women were treated with vitamin D (70 microgram per day) while the other half was given placebo. All women were diagnosed and treated during wintertime.
Vitamin D supplementation for three months was effective in normalizing vitamin D levels and the hormonal changes, but had no effect on most markers of cardiovascular health. This is in accordance with the newest evidence within the field.
Overall in accordance with the available evidence, we found a beneficial effect on some bone health indices. Nevertheless, at the same time we surprisingly found that a daily supplement of vitamin D had a negative effect on muscle function, assessed by both muscle strength and physical performance. Conclusive, we did not find any beneficial effect of correcting the vitamin D insufficiency with a relatively high dose of vitamin D. There is currently consensus to prevent/treat to low levels of vitamin D, since this is associated with beneficial effects on the bones and muscles. However, how to treat and prevent this remains uncertain. An increasing number of studies report negative effects of higher doses of vitamin D, while smaller dosages are considered safe. Our study suggests that the effect of vitamin D is complex and emphasizes potential beneficial as well as unbeneficial effects of the vitamin. There is still a great need to clarify the best way to treat a vitamin D insufficiency and possible health consequences.

The defence is public and takes place on 1st of November 2018, Aarhus University Hospital, Palle Juul-Jensens Blvd. 99, AUH Nord, Auditorium J116-113, Entrance J. The title of the project is "Cardiovascular- and musculoskeletal effects of vitamin D treatment." For more information, please contact MD, PhD student Lise Sofie Bislev, email: lise.sofie@auh.rm.dk, Phone +45 2091 4277.

Assessment committee:
Annemarie Brüel, Professor MSO, Department of Biomedicine, Health, Aarhus University Aarhus, Denmark, Chairman of the committee and moderator of the defence
Östen Ljunggren, Professor, Department of Medical Sciences, Endocrinology and Mineral Metabolism. Akademisk Hospital, Uppsala, Sweden
Peter Schwarz, Professor in Chair, Department of Endocrinology, Rigshospitalet, Copenhagen, Denmark

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