

Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Morten Bøttcher

Title of dissertation: Non-invasive testing in patients with suspected coronary artery disease

Date for defence: 01/11/2019 at (time of day): 14.00 Place: Auditoriet ved indgang N1, Regionshospitalet Herning, Gl.landevej 61, 7400 Herning

Press release (Danish)

Billeddiagnostisk udredning af patienter mistænkt for sygdom i hjertets kransårer

Formålet med projektet var at undersøge, om man kan bruge en kombination af forskellige billeddiagnostiske metoder til at udrede patienter mistænkt for åreforkalkning i hjertets kransårer. Den nuværende procedure til udredning indebærer en kransåreundersøgelse, hvor man fører et tyndt kateter ind til hjertet, via en pulsåre i lysken, og indsprøjter kontrastvæske direkte i kransårerne. Fordelen ved den metode er, at man med høj sikkerhed kan vurdere, om patienten vil have gavn af f.eks. ballonbehandling. Kun ca. halvdelen af de patienter, der får foretaget undersøgelsen, har imidlertid brug for f.eks. ballonbehandling. Samtidig er undersøgelsen omkostningstung og ikke uden risiko for patienten. Derfor har dette projekt undersøgt, om en kombination af forskellige billeddiagnostiske procedurer kan anvendes som en mere sikker og mindre ressourcekrævende metode til at udrede patienter mistænkt for forkalkning i kransårerne. Hypotesen er, at man vha. en supplerende billeddiagnostisk undersøgelse af hjertets blodforsyning kan vurdere, om der er behov for en kateterbaseret kransåreundersøgelse.

Vi har gennemført et klinisk randomiseret studie med 1675 patienter, der fik CT-skannet hjertet på grund af mistanke om sygdom i kransårerne. Hos 392 af patienterne gav skanningen fortsat mistanke om sygdom i kransårerne, som muligvis kunne have brug for behandling med ballonudvidelse. De 392 patienter blev randomiseret til en supplerende funktionsundersøgelse af hjertets blodsyning lavet med to forskellige skanningsmetoder og en efterfølgende kateterbaseret undersøgelse som kontrol for resultatet af funktionsundersøgelserne. Vi fandt, at der var dårlig overensstemmelse mellem resultatet af funktionsundersøgelsen og den kateterbaserede undersøgelse, og at man derfor ikke umiddelbart kan erstatte en kateterbaseret undersøgelse med en funktionsundersøgelse. Yderligere forskning i brugen af funktionsundersøgelser til vurdering af hjertets blodforsyning er nødvendig. Ph.d.-projektet er gennemført af læge Louise Nissen ved Hjertesygdomme, Hospitalsenheden Vest og Institut for Klinisk Medicin, Aarhus Universitet.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 01/11-2019 i auditoriet ved indgang N1, Regionshospitalet Herning, Gl.landevej 61, Herning. Titlen på projektet er "Billeddiagnostisk udredning af patienter mistænkt for sygdom i hjertets kransårer". Yderligere oplysninger: Ph.d.-studerende Louise Nissen, e-mail: lounisse@rm.dk, tlf. 78436242.

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Press release (English)

Non-invasive testing in patients with suspected coronary artery disease

The main purpose of this project was to investigate whether it is possible to examine patients with suspected coronary artery disease in a safer and less resource demanding way, by combining different imaging techniques. The current procedure involves an invasive examination where a small catheter is placed in the coronary vessels and contrast agent is injected directly into the vessels. This investigation allows the doctor to directly evaluate whether a patient needs treatment with percutaneous coronary intervention. However, only about 50% of the patients need treatment with percutaneous coronary intervention. Moreover, invasive investigation is resource demanding and not without risk to the patients. We hypothesize that a supplementary examination to evaluate the cardiac perfusion will improve the selection of patients for catheter-based investigation, thus reducing the number of unnecessary invasive examinations.

We have conducted a clinical, randomized controlled trial including 1675 patients who were investigated with a cardiac CT on suspicion of disease in their coronary vessels. In 392 patients the cardiac CT indicated disease and the patients were randomized to a perfusion examination to evaluate the blood supply to the cardiac muscle using different scan techniques. All patients had a subsequent invasive investigation as a control of the perfusion examinations. We found disagreement between the results of the perfusion examination and the invasive investigations. Thus, it is not immediately possible to replace the invasive investigations. The results call for further research in the use of perfusion investigations. The PhD project was carried out by Louise Nissen, who is defending her dissertation on 01/11-2019.

The defence is public and takes place on 01/11-2019 at 14 in auditoriet at entrance N1, Regional Hospital of Herning, Gl.landevej 61, 7400 Herning. The title of the project is Non-invasive testing in patients with suspected coronary artery disease. For more information, please contact PhD student Louise Nissen, email: lounisse@rm.dk, Phone +45 78436242.

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