

Press release

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Basic information

Name: Tingting Gu Email: gutt@cfm.au.dk Phone: 50197695

Department of: Clinical Medicine

Main supervisor: Kim Ryun Drasbek

Title of dissertation: Do conditioned extracellular vesicles protect brains from ischemic injury? - proof from a murine stroke model

Date for defence: 17-06-2021 at (time of day): 10:00-12:00 Place: Samfundsmedicinsk Auditorium 1262-101, Bartholins Allé 4, 8000 Aarhus C

Press release (Danish)

Beskytter konditionerede ekstracellulære vesikler mod iskæmisk skade i hjernen? – Resultater fra en musemodel af stroke

Stroke er en alvorlig hjernesygdom, der kan resultere i langvarige handicap og i flere tilfælde vil være dødelig. Iskæmisk konditionering (RIC) er en lovende behandling af stroke, der kan udføres med en blodtryksmanchet på armen og menes at kunne beskytte hjernen under et stroke. En større forståelse af hvorledes RIC aktiverer kroppens eget forsvar mod stroke kan pege i retning af nye behandlingsmetoder. Man har set, at RIC påvirker frigivelsen af ekstracellulære vesikler (EVer) i blodet og dermed kan sende signaler rundt i kroppen. Disse EVer er nano-størrelse partikler, der kan udsendes fra mange forskellige celler i kroppen. Dette ph.d.-projekt beskæftigede sig med at undersøge hvorvidt EVerne fra RIC kunne beskytte hjernen under et stroke. EVerne blev isoleret i blodprøver fra raske forsøgspersoner før og efter RIC. Begge typer EVer blev derefter testet i en musemodel for stroke for at undersøge om de bevæger sig til hjernen og om de har en effekt på hjernens blodgennemstrømning og dermed iltning af hjernen. Det blev også undersøgt om de kan forbedre musenes funktion og mindske skaden i hjernen efter stroke. Dette er et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Tingting Gu, der forsvare det d. 17/6.

Pressemeddelelsen - afsluttes med: Forsvaret af ph.d.-projektet er offentligt og finder sted den 17/6 kl. 10 i Samfundsmedicinsk auditorium, Aarhus Universitet, Bartholins Allé 4, 8000 Aarhus C. Titlen på projektet er "Beskytter konditionerede ekstracellulære vesikler mod iskæmisk skade i hjernen? – Beviser fra en muse model af stroke". Yderligere oplysninger: Ph.d.-studerende Tingting Gu, e-mail: gutt@cfm.au.dk, tlf. 50197695.

Bedømmelsesudvalg: påfør de tre medlemmer af udvalget med navn, titel og arbejdssted

Betina Elfving, lektor

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Maria Gutierrez-Fernandez

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Torben Moos, professor

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Press release (English)

Do conditioned extracellular vesicles protect brains from ischemic injury? – proof from a murine stroke model

Stroke is a severe brain disease that can lead to long-term disability and even death. Remote ischemic conditioning (RIC) has been suggested as a promising treatment that is carried out using a blood measure cuff and holds the potential to protect the brain during stroke. Understanding the mechanism by which RIC activates the body's own defence mechanisms against stroke can help establish the endogenous protective pathways for brain ischemia leading to better treatment. It has been reported that RIC affects the release of the so-called extracellular vesicles (EVs) that are nano sized particles released by many cells. To test the potential effects of these EVs in protecting the brain from stroke, EVs were isolated from the blood plasma of human subjects before and after RIC treatment and tested in a mouse stroke model. The distribution of these EVs in the ischemic brain, the acute effects on cerebral perfusion and oxygenation, and the prolonged effects of these EVs in neurological function and brain damage were investigated in this PhD project. The project was carried out by Tingting Gu, who is defending her dissertation on 17/06.

The defence is public and takes place on June 17, at 10:00 in Samfundsmedicinsk auditorium, Aarhus University, Bartholins Allé 4, 8000 Aarhus C. The title of the project is 'Do conditioned extracellular vesicles protect brains from ischemic injury? - proof from a murine stroke model'. For more information, please contact PhD student Tingting Gu, email: gutt@cfm.au.dk, Phone +45 50197695.

Assessment committee:

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