AARHUS UNIVERSITY

Press release

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Basic information

Name: Hamed Zaer Email: hz@clin.au.dk Phone: +45 42 77 00 66

Department of: Clinical Medicine

Main supervisor: Prof. Jens Christian Hedemann Sørensen MD, PhD, DMSc. Aarhus University, Denmark

Title of dissertation: Evaluation of the neuromodulatory effects of brain stereotactic radiosurgery - A large animal model of the Göttingen minipig

Date for defence: 25.November.2021 at (time of day): 14:00 Place: Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 99, Indgang C, Plan 1, Auditorium C114-101, 8200 Aarhus N.

Press release (Danish)

Evaluering af effekt af stereotaktisk radiokirurgi på hjernen - et stordyr model af Göttingen minipig

De modificerede doser af ioniserende stråling antages at efterlade de bestrålede hjerneceller i live, men mindre metabolisk aktive. Dette er undersøgt og resultaterne er sammenfattet i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af læge Hamed Zaer, der forsvarer det d. 25/November/2021.

Bevægelsesforstyrrelser og psykiatriske sygdomme skyldes unormal neuronal aktivitet inden for forskellige hjerneområder. Modulation af hjernecelleaktivitet med præcist målrettede justerede doser af ioniserende stråling, kaldet radio-neuromodulation, antages at kunne behandle bevægelse og funktionelle lidelser. I dette internationale samarbejdsprojekt mellem Aarhus Universitet, Johannes Gutenberg Universitet - Mainz, Stanford University og en industriel partner, evaluerede vi den potentielle neuromodulerende effekt af ioniserende stråling vha. avancerede elektrofysiologiske indgreb, Brain-machine interface, histologi og billeddiagnostiske modaliteter. Forsvaret af ph.d.-projektet er offentligt og finder sted den 25/November kl. 14:00 i Aarhus Universitetshospital, Palle Juul-Jensens Boulevard 99, Indgang C, Plan 1, Auditorium C114-101, 8200 Aarhus N. Titlen på projektet er ”Evaluation of the neuromodulatory effects of brain stereotactic radiosurgery - A large animal model of the Göttingen minipig”. Yderligere oplysninger: Læge Ph.d.-studerende Hamed Zaer, e-mail: hz@clin.au.dk, tlf. +45 42 77 00 66.

Bedømmelsesudvalg:

Professor Per Almqvist MD, PhD, Department of Clinical Neuroscience - Karolinska Institutet, Stockholm, Sweden
Professor Troels Wesenberg Kjær MD, PhD, University of Copenhagen, Denmark
Professor Sándor Beniczky MD, PhD, FEAN, Department of Neurology, Aarhus University Hospital

Press release (English)

Evaluation of the neuromodulatory effects of brain stereotactic radiosurgery - A large animal model of the Göttingen minipig

The modified low doses of ionizing radiation are thought to leave the irradiated brain cells alive but less metabolically active. This hypothesis has been investigated and the results have been summarized in a new PhD project from Aarhus University, Health. The project was carried out by Hamed Zaer MD, who is defending his dissertation on 25/Nov/2021.

Movement disorders and psychiatric illnesses are caused by abnormal neuronal activity in different areas of the brain. Modulation of brain cell activity with precisely targeted low doses of ionizing radiation, called radio-neuromodulation, is thought to be able to treat movement and functional disorders. In this international collaborative project between Aarhus University, Johannes Gutenberg University of Mainz, Stanford University and an industrial partner, we evaluated the potential neuromodulatory effect of ionizing radiation using advanced electrophysiological methods, Brain-machine interface, histology and imaging modalities. The defense of the PhD project is public and takes place on 25 / November at 14:00 in Aarhus University Hospital, Palle Juul-Jensens Boulevard 99, Entrance C, Plan 1, Auditorium C114-101, 8200 Aarhus N. The title of the project is "Evaluation of the neuromodulatory effects of brain stereotactic radiosurgery - A large animal model of the Göttingen minipig ". For more information, please contact MD. PhD student Hamed Zaer, e-mail: hz@clin.au.dk, tel. +45 42 77 00 66..

Assessment committee:

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Professor Sándor Beniczky MD, PhD, FEAN, Department of Neurology, Aarhus University Hospital

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