AARHUS UNIVERSITY

Press release

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Basic information

Name: Klaus Ulrik Koch Email: klauskoch@clin.au.dk Phone: 61686674

Department of: Clinical Medicine

Main supervisor: Mads Rasmussen, Consultant, Associate Professor, PhD

Title of dissertation: Influence of Commonly used Vasopressors on Cerebral Circulation, Microcirculation and Oxygenation: Studies in Patients with Brain Tumors using MRI and PET

Date for defence: 19th of March 2021 at (time of day): 2pm Place: The defence will take place online.

Topic: Phd Defence - Klaus Ulrik Koch
Time: Mar 19, 2021 02:00 PM Copenhagen

Join Zoom Meeting
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Press release (Danish)

Indflydelse af hyppigt brugte vasopressor stoffer på cerebral cirkulation, mikrocirkulation og iltning: Studier med MRI og PET hos patienter med hjernetumorer.

På daglig basis administreres store mængder vasopressor stoffer i forbindelse med anæstesi til neurokirurgiske patienter. Dette for at undgå blodtryksfald under anæstesien, og dermed sikre en tilstrækkelig gennemblødning og iltning af hjernevævet. Phenylefrin og Efedrin er hyppigt brugte vasopressor stoffer med forskellige virkningsmekanismer. Tidligere studier har antydet, at Phenylefrin nedsætter iltning i hjernen i modsætning til Efedrin. I dette PhD-studie anvendes MRI og PET til at undersøge effekterne af de nævnte vasopressor stoffer gennem parametrer, som måler på hjernens makro- og mikrocirkulation samt oxygenering under anæstesi. PhD-studiet bidrager med ny viden særligt om hjernens mikrocirkulation i forhold til brugen af vasopressor stoffer, og kobler hidtidige teorier med klinisk praksis. Studiet lægger op til fremtidig forskning og antyder forsigtigt rekommendationer vedrørende brugen af vasopressor terapi til behandling af blodtryksfald hos patienter med hjernetumorer under generel anæstesi.

PhD-projektet er fra Aarhus Universitet, Health. Projektet er gennemført af Klaus Ulrik Koch, der forsvarer afhandlingen d. 19. marts 2021.

Forsvaret af PhD-projektet er offentligt og vil pga COVID-19 restriktioner blive gennemført virtuelt. Forsvaret finder sted d. 19 marts 2021 kl. 14.00. Titlen på projektet er ”Influence of Commonly used

Vasopressors on Cerebral Circulation, Microcirculation and Oxygenation: Studies in Patients with Brain Tumors using MRI and PET".

Yderligere oplysninger kan fås ved kontakt til PhD-studerende Klaus Ulrik Koch, e-mail: klauskoch@clin.au.dk, tlf. +45 61686674

Bedømmelsesudvalg:
Mikkel Mylius, Consultant, Associate Professor, PhD, Department of Neurosurgery, Aarhus University Hospital, Denmark

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Press release (English)

Influence of Commonly used Vasopressors on Cerebral Circulation, Microcirculation and Oxygenation: Studies in Patients with Brain Tumors using MRI and PET

On a daily basis, large amount of vasopressors are administered during anesthesia in neurosurgical patients to avoid decreasing blood pressure during anesthesia and to secure a sufficient cerebral circulation and oxygenation. Phenylephrine and Ephedrine are frequently used vasopressors with different mechanism of action. Earlier studies have indicated that Phenylephrine decreases cerebral oxygenation compared to Ephedrine. In this PhD-study MRI and PET was used to examine the effects of the above mentioned vasopressors analyzing parameters on cerebral macro- and microcirculation, and oxygenation during anesthesia. The PhD-study contributes new knowledge especially on brain microcirculation in relation to the use of vasopressors, and adds clinical practice to theory. The study recommends further research and cautiously makes recommendations on the use of vasopressor therapy when treating low blood pressure during general anesthesia in patients with brain tumors.

PhD-project from Aarhus University. The project was carried out by Klaus Ulrik Koch, who is defending his dissertation on 19th of March 2021.

The defence is public and will due to COVID-19 restrictions be conducted virtually. The defence takes place on the 19th of March 2021 at 2pm online. The title of the project is Influence of Commonly used Vasopressors on Cerebral Circulation, Microcirculation and Oxygenation: Studies in Patients with Brain Tumors using MRI and PET.

For more information, please contact PhD student Klaus Ulrik Koch, email: klauskoch@clin.au.dk, Phone +45 61686674

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