

Press release

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Basic information

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Department of: Clinical Medicine

Main supervisor: Tine Brink Henriksen

Title of dissertation: Circulatory support in neonatal resuscitation

Date for defence: 14.01.2022 at (time of day): 14.00 Place: Auditorium C114-101, Indg. C, Aarhus University Hospital.

Press release (Danish)

Circulatorisk støtte i genoplivning af nyfødte

Adrenalin er en integreret del af internationale guidelines for neonatal genoplivning. Trods mange års forskning og klinisk anvendelse, er brugen af adrenalin dog fortsat kontroversiel, og vi mangler god evidens på området. Eksperimentelle dyreforsøg har vist, at genoplivning med adrenalin øger sandsynligheden for at genvinde den spontane cirkulation (ROSC). Desværre er der også dyreforsøg som antyder, at adrenalin forringer hjertemusklaturens funktion samt den mikrovaskulære cirkulation i hjernen. Disse modstridende resultater har givet anledning til spekulation om, hvorvidt adrenalin forbedrer kortsigtede outcomes men på bekostning af negative helbredsmæssige effekter på længere sigt. Behov for avanceret genoplivning som nyfødt er associeret med senere hjerneskade, men vi mangler undersøgelser, som belyser de årsagsmæssige sammenhænge og ikke mindst effekten af behandlingen. For at forbedre følgerne efter hjertestop hos nyfødte har dette projekt haft til formål at undersøge behandlingseffekten af genoplivning med adrenalin sammenlignet med placebo i to forskellige grisemodeller for hjertestop hos nyfødte (iltmangel alene og iltmangel + infektion) med fokus på ROSC og billeddiagnostiske markører for hjerneskade. Resultaterne præsenteres med baggrund i et nyt ph.d.-projekt fra Aarhus Universitet, Health. Projektet er gennemført af Hannah Brogård Andersen, der forsvare det d. 14/01/2022.

Forsvaret af ph.d.-projektet er offentligt og finder sted den 14/01/2022 kl. 14 i auditorium C114-101, Indg. C, plan 1, Aarhus Universitets Hospital, Palle Juul-Jensens Blvd., Aarhus N. Grundet COVID-19 kan forsvaret desuden tilgås via Zoom. Ved ønske herom, kontakt da Hannah Brogård Andersen på nedenstående mail for zoom link.

Titlen på projektet er ”Circulatorisk støtte i genoplivning af nyfødte”. Yderligere oplysninger: Ph.d.-studerende Hannah Brogård Andersen, e-mail: hannah.brogard@clin.au.dk, tlf. 27134248.

Bedømmelsesudvalg:

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Press release (English)

Circulatory support in neonatal resuscitation

Epinephrine (adrenaline) is a mainstay in international neonatal resuscitation guidelines. However, despite its ubiquity and decades of research, the effect and safety of resuscitation with epinephrine remains controversial. In animal studies, epinephrine increases the chance of achieving return of spontaneous circulation (ROSC). This positive short-term effect may however be counterbalanced by a risk of harm. Animal studies have proposed adverse effects of epinephrine on myocardial function and cerebral microvascular blood flow, which leave us asking whether epinephrine improves short term survival but at the cost of poor long-term outcomes, including neurologic outcome. Thus, to improve outcomes after cardiac arrest in newborns, the aim of this project was to investigate the effect of resuscitation with epinephrine vs placebo in two different piglet models of newborn cardiac arrest (hypoxia and hypoxia combined with infection) with emphasis on ROSC and imaging biomarkers of brain damage. This is a new PhD project from Aarhus University, Health. The project was carried out by Hannah Brogård Andersen, who is defending her dissertation on 14/01/2022.

The defence is public and takes place on 14/01/2022 at 2.00 PM, Auditorium C114-101, Entrance C, level 1, Aarhus University Hospital, Palle Juul-Jensens Blvd., Aarhus N. Due to COVID-19 the defence can also be attended by zoom. Please contact PhD student Hannah Brogård Andersen on the mail listed below if you wish to receive a zoom link.

The title of the project is Circulatory support in neonatal resuscitation. For more information, please contact PhD student Hannah Brogård Andersen, email: hannah.brogaard@clin.au.dk, Phone +45 2713 4248.

Assessment committee:

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