EUPHOREA
European Prehospital Research Alliance

REPORT

EUPHOREA 9th Meeting, Copenhagen, June 1 – 2, 2016

Present: 33+ participants; please see attached list
Agenda: Please see attached agenda
Minute taker: Summaries of the presentations provided by the speakers

Wednesday June 1

Welcoming words; Leif Rognås
Leif wishes everyone welcome to the 9th EUPHOREA Meeting, this time in sunny Copenhagen. Leif also gave a short introduction of the Danish EMS services.

Morten Thingemann Bøtker (DK)
Pre-hospital point-of-care diagnostics – a regional research strategy:
Prehospital point-of-care diagnostics can potentially improve diagnostic performance, triage and treatment in the prehospital setting. However, it has to be linked to decision-making. There is no value in added knowledge that does not cause better decisions. Prehospital point-of-care diagnostics have to be simple and any added value should be balanced against the time consumed. The optimal biomarker equipment should have reduced analysis times – replacing precise measurements with simple categorical answers to reduce time is a necessary trade-off. In focused ultrasonography, we have to loose the protocols and change the approach to answering clinical questions arising in specific patient groups by assessing simple categorical eye-balled measures . Knowledge of sensitivity and specificity of these simplified findings relating to specific diseases in predefined symptom groups is needed. Once that knowledge is gained, the examinations should be put through the ultimate test in randomized controlled trials examining if making decisions based on these new technologies changes patient management and patient outcome. *(For further information, please contact Morten T. Bøtker directly: morten.boetker@aarhus.rm.dk)*

Peter Martin Hansen (DK)
In-flight Damage Control Resuscitation of massive bleeding – challenges and opportunities during long flights:
The authors present a recent case story that demonstrates that in-flight Damage Control Resuscitation of massive bleeding is feasible in physician-manned emergency helicopters despite very limited space and a hostile environment. Damage control resuscitation aiming at ratio 1:1:1 of RBC, plasma and platelets should be prioritized from the prehospital phase and during in-flight to avoid dilution and further coagulopathy. On-board blood products optimally should consist of all three since local hospital transfusion support can be scarce even though much needed in cases of massive bleeding. *(Presentation slides will be available on the EUPHOREA website: www.euphorea.net)*

Mads Tofte (DK)

Noise exposure in pre-hospital critical care:

The purpose of the project is to examine the noise exposure by carrying small microphones attached in front of the ear canal during a working day. Initially, the staff of the Mobile Emergency Care Unit in Odense, Kolding and Aarhus as well as the staff of the three Helicopter Emergency Medical Services located in Billund, Skive and Ringsted participate in the project. With these data we will create a detailed exposure model, by which we will calculate the average noise exposure during a working day in the pre-hospital world. Next, a hearing test will be performed after each noise exposure (e.g. after an episode of emergency transport). This will be done in order to detect any acute hearing loss in the pre-hospital doctors. For comparison similar tests and measurements will be performed on doctors working in an anesthetic department. We also want to perform standard hearing tests on a group of ambulance drivers (both younger and older), to see if the number of years in the ambulance service affect their hearing (when taking into account gender, noisy hobbies and age-related hearing loss). *(Presentation slides will be available on the EUPHOREA website: www.euphorea.net)*

Kamilia Funder (DK)

Long term effects of HEMS implementation:

Implementation of the first Danish physician-staffed helicopter emergency medical service (HEMS) was associated with a significant reduction in time on social transfer payments after trauma, but no significant benefit of HEMS could be detected in terms of mortality, work ability, involuntary early retirement rate, quality of life and disability among trauma patients or patients suspected of STEMI and stroke. However, because HEMS operated in more distant parts of the catchment area compared to the ground emergency medical services, the implementation of HEMS may be considered to facilitate equal access to specialised treatment for STEMI and stroke patients.

Alasdair Corfield (SCT)

Research in the Scottish Emergency Medical Retrieval Service:

Four projects presented from EMRS

SCRAM (Structured Critical Airway Management) bag - Paul Swinton/ Neil Sinclair:

RCT comparing structured emergency airway bag with prefilled drug syringes versus standard airway kit and drug preparation. Based on a simulated clinical scenario. Primary outcome - time to complete kit setup. Secondary outcomes - number of errors in kit/drug makeup

Badgecam project - Tim Parke:

Filming of missions involving RSI using encrypted personal camera s worn by HEMS team. Primary outcome - detailed timeline and human factors analysis of RSI. Many ethical and practical issues to overcome to allow project to proceed. Currently recruiting - 15 missions filmed so far

HEMS physician presence effect on outcomes following trauma - Ali Maddock / Alasdair Corfield:

Trauma registry based study looking at outcome following trauma in Scotland. 4 year study involving 13000 patients. Primary outcome was observed vs expected mortality using TRISS with Ps12 coefficient (TARN based on UK norms). Patients with ISS>15 had additional 4.8 survivors/100 patients, compared to predicted survival levels

Aeromedical service activity modelling - Chris Moultrie:

Project looking at mathematical modelling of future EMRS activity based on historical patterns. Currently validating mathematically derived model on predicted activity.

Asger Sonne (DK)

Changes in advanced prehospital interventions after implementation of a physician-staffed helicopter:

The first Danish Physician Staffed Helicopter Emergency Medical System (PS-HEMS) was implemented in the rural part of eastern Denmark in May 2010. Within its first operational year we

found that this was associated with a significant increase in the proportion of trauma patients (ISS>3) that receive advanced prehospital interventions. The procedure that increased the most was the administration of opioid analgesia. In patients with traumatic brain injury we found a 20% increase in the proportion of patients who were intubated but this was not statistically significant.
Our study suggests that the previously published improvement in survival in the severely injured patients also may be attributed to an increased number of interventions performed after the HEMS implementation in addition to the direct transfer to a specialized trauma center.
Asger Sonne, Rasmus Hesselfeldt, Sandra Wulffeld, Jacob Steinmetz and Lars S. Rasmussen. Department of Anaesthesia, Centre of Head and Orthopeadics, Rigshospitalet, Copenhagen University Hospital, Denmark. *(For further information, please contact Asger Sonne directly*: asger.sonne@regionh.dk)

Thursday June 2

Christian Juhl Terkelsen (DK)
E-CPR in Denmark:
A presentation of the Danish experience with Extracorporeal membrane oxygenation assisted cardiopulmonary resuscitation = E-CPR". In the Central Denmark
Region all patients with cardiac arrest are admitted directly at the heart center, unless a non-cardiac cause is obvious. This also means that patients without ROSC, i.e. ongoing CPR are admitted directly to the center. A team consisting of a cardiologist, a thoracic surgeon and an anaesthesiologist then determines whether the patient is eligible for E-CPR. Among the first 21 treated with E-CPR the survival was 33% (7 survived) despite mean low-flow time of 141 minutes among survivors". A centralised strategy for treatment of patients with OHCA is essential to provide this therapy.
The speaker does not wish to have details from the presentation distributed until the results of the study have been published.

Leif Rognås (DK)
Implementing videolaryngoscopy in anaesthesiologist-staffed pre-hospital critical care:
Due to shortage of time, this presentation was cancelled. However, the article and results of the study may be found at: https://sjtrem.biomedcentral.com/articles/10.1186/s13049-016-0276-6

Lars Brun
Is there a need for blood product therapy in urban prehospital critical care?
The Danish HEMS carry blood products to treat catastrophic haemorrhage on scene. The rapid response cars of the prehospital critical care service in Denmark do not, even though they attend a substantially larger number of call. We conducted a retrospective cohort study to investigate the need for prehospital blood component therapy in the anaesthetist-staffed response car in a large Danish city.
9690 patients during 24 months were included. A database search revealed 27 patients, who also displayed signs of catastrophic haemorrahage on scene, were transfused in hospital. Of these patients, 13 were likely to have received prehospital blood transfusions, according to an expert group evaluation.
We plan to further specify and evaluate the need in this setting through a 12 month trial with prehospital blood component.
The slides for this presentation are still not ready for publishing.

Mikael Gellerfors (SWE)
Prehospital advanced airway management in Nordic countries – a prospective multicenter observational study:
Prehospital Advanced Airway Management (PHAAM) is a potentially lifesaving intervention. In the Nordic countries different types of emergency medical services (EMS) and professions provide PHAAM. The success rate of prehospital endotracheal intubation, the incidence of difficult intubation and complications in the Nordic countries are not known. The aim of this study is to define PHAAM success rate and complications in different types of Nordic EMS organisations and physician critical care teams. The study is a prospective observational study with collection of PHAAM data according to the Utstein template by Sollid et al. To date 1300 patients have been included by the 12 second tier units in the Nordic Countries. The primary endpoint is PHETI success on ≤2 attempts and no complications. *(Presentation slides will be available on the EUPHOREA website: www.euphorea.net)*

Jimmy Højberg Holm (DK)
Pre-hospital critical care physicians' proficiency in radio communication:
Understandably, the speaker does not wish to have details from the presentation distributed until the results of the study have been published.

Closing remarks by Leif Rognås:
Thanks to each and every one of you for your attendance and your contribution!
You are all more than welcome back at the next meeting.

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Next EUPHOREA Meeting:
Please make a note of the next EUPHOREA Meeting that will take place on Monday November 7th and Tuesday November 8th in Munich, Germany.

More information to come!

Best regards,
Kirsti S. Holm
EUPHOREA Coordinator