Practices of treatment limitations and end-of-life care among OHCA patients with expected poor neurological functional outcome

The number of patients who survive to hospital discharge and patients with favorable neurological function remain low despite recent advances in resuscitation science. (1) Citizens are increasingly interested in better end-of-life (EOL) care among OHCA patients. (1) There has also been discussion whether the process of withdrawal of life-sustaining measures is equal or different in donation after circulatory death (DCD) patients compared to other dying patients. (2) The European Society of Intensive Care Medicine recently published guidelines on EOL and palliative care in the intensive care unit. (3) Currently there is variability of practices among ICUs and countries, further investigation is needed to find best practices in EOL care.

This study is a retrospective observational study which aims to discover what EOL measures are taken in participating centers when OHCA patients have an unfavorable outcome confirmed, as well as the time from confirmation of unfavorable outcome to death. We also aim to discover whether EOL care is carried out in the ICUs or is transferring the dying patients to other locations prevalent. Our objective is to explore how tracheostomy, withdrawal of mechanical ventilation, terminal weaning, and extubation are utilized in EOL care. If EOL care is given in the ICU, we are interested in what medication and medication doses are given as part of EOL care. We also want to know whether the EOL care of DCD patients differs from the EOL care of other patients.

Methods:

Patients: All patients that have poor neurological outcome confirmed by neurologist.

The data are collected to the additional page on the eCRF. The data can be collected retrospectively and prospectively in the participating centers.

Data required:

Unfavorable outcome confirmed by neurologist	date/time
Withdrawal of life sustaining therapy	date/time
Patient is an organ donor	yes/no
Place of starting end-of-life care	ICU/ward/other, please specify
Entire EOL care in the intensive care unit	yes/no
Tracheostomy	yes/no
Extubation as part of end-of-life care	yes/no
Weaning from mechanical ventilation as part of EOL care (terminal weaning)	yes/no
Opioid used as part of end-of-life care	yes/no
Name of opioid used in EOL care	
Cumulative dose of opioid used in EOL care	
Benzodiazepine used as part of EOL care	yes/no
Name of benzodiazepine used in EOL care	
Cumulative dose of benzodiazepine used in EOL care	
Propofol used as part of EOL care	yes/no
Cumulative propofol dose used in EOL care	
Other drugs used in EOL care (symptom care)	yes/no
Name and dose of drugs	
Were fluids discontinued?	yes/no
Were antibiotics discontinued?	yes/no/NA
Was nutrition discontinued?	yes/no/NA
Time and date of death	date/time

Investigators:

MD, PhD Essi Raatikainen [1], associate professor Johanna Hästbacka [1], professor Matti Reinikainen [2], professor Markus Skrifvars [3], professor Juho Lehto [1]

1. Tampere University Hospital, Tampere, Finland
2. Kuopio University Hospital, Kuopio, Finland
3. Helsinki University Hospital, Helsinki, Finland

Funding: Johanna Hästbacka, Tampere University Hospital and Tampere University

How to join the substudy?

Contact: Johanna

johanna.hastbacka@tuni.fi

References:

1. Ishii J, Nishikimi M, Ohshimo S, Shime N. The Current Discussion Regarding End-of-Life Care for Patients with Out-of-Hospital Cardiac Arrest with Initial Non-Shockable Rhythm: A Narrative Review. *Medicina*. 2024; 60(4):533. https://doi.org/10.3390/medicina60040533
2. Shahin J, Scales NB, Johara F, Hogue M, Hornby L, Shemie S, Schmidt M, Waldauf P, Duska F, Wind T, Van Mook WN, Dhanani S. Is the process of withdrawal of life-sustaining measures in the intensive care unit different for deceased organ donors compared with other dying patients? A secondary analysis of prospectively collected data. BMJ Open. 2023 Aug 18;13(8):e069536. doi: 10.1136/bmjopen-2022-069536. PMID: 37597867; PMCID: PMC10441082.
3. Kesecioglu J, Rusinova K, Alampi D, Arabi YM, Benbenishty J, Benoit D, Boulanger C, Cecconi M, Cox C, van Dam M, van Dijk D, Downar J, Efstathiou N, Endacott R, Galazzi A, van Gelder F, Gerritsen RT, Girbes A, Hawyrluck L, Herridge M, Hudec J, Kentish-Barnes N, Kerckhoffs M, Latour JM, Malaska J, Marra A, Meddick-Dyson S, Mentzelopoulos S, Mer M, Metaxa V, Michalsen A, Mishra R, Mistraletti G, van Mol M, Moreno R, Nelson J, Suñer AO, Pattison N, Prokopova T, Puntillo K, Puxty K, Qahtani SA, Radbruch L, Rodriguez-Ruiz E, Sabar R, Schaller SJ, Siddiqui S, Sprung CL, Umbrello M, Vergano M, Zambon M, Zegers M, Darmon M, Azoulay E. European Society of Intensive Care Medicine guidelines on end of life and palliative care in the intensive care unit. Intensive Care Med. 2024 Nov;50(11):1740-1766. doi: 10.1007/s00134-024-07579-1. Epub 2024 Oct 3. PMID: 39361081; PMCID: PMC11541285.