

TITLE (SHORT, 200 CHARACTERS MAX.):

Prospective comparison of three risk scores in comatose patients admitted to intensive care after out-of-hospital cardiac arrest.

MAIN HYPOTHESES TESTED (2 MAX)

Early identification of predictors for a poor long-term outcome in patients who survive the initial phase of out-of-hospital cardiac arrest (OHCA) may facilitate future clinical research, the process of care and information to relatives. In a substudy of the TTM-trial, we identified ten independent predictors of poor outcome defined as CPC 3-5. From these, we constructed a simple risk score, the TTM risk score and compared its performance to two other risk scores as described in the respective original publication. However, neither the TTM risk score, nor the other risk scores (OHCA; Adrie 2006 and CAPH; Maupain 2015) have been validated outside their development cohorts. The aim of this substudy within the prospective TTM2 OHCA cohort is to validate and compare three existing risk scores for poor outcome after OHCA; the TTM score, the OHCA score and the CAPH score.

SINGLE CENTER [] , MULTICENTER [X]

Substudy/Post Hoc analysis of the complete TTM2 data set.

PICO

Patients: All patients included in original study will be included in the risk score analysis and comparison.

Intervention/Exposure/Prognostic factor: Prognostic factors of interest are clinical parameters available at ICU admission.

Comparison: No other patient group. Performance of three risk scores will be compared.

Outcome: The primary outcome will be the predictive values of the different risk scores for poor outcome and mortality 180 days after OHCA.

DATA NEEDED FOR THE ANALYSIS

(SPECIFY VARIABLES AND MOTIVATE ANY PROPOSED ADDITIONS TO THE ECRF)

Clinical parameters include: age, comorbidities (ischemic heart disease, heart failure, obstructive lung disease, diabetes, renal failure, hypertension), place for CA (home, public place), initial rhythm (shockable, non-shockable), bystander CPR, time in no-flow (time from collapse until CPR), time until defibrillation, first monitored rhythm other than VT/VF, time in low-flow (from start of CPR until ROSC, adrenaline exposure, cumulative adrenaline dose and systolic blood pressure at admission, pupillary and corneal reflexes at admission, GSC motor score at admission, PaCO₂ and pH at admission.

LOGISTICS – HOW WILL ADDITIONAL DATA BE GATHERED?

BRIEF STATISTICAL ANALYSIS PLAN AND SAMPLE SIZE ESTIMATE

Our own TTM risk score (Martinell submitted 2017) and the other risk scores (Adrie 2006, Maupain 2015) will be used as described in the respective publications. Missing data will be analyzed and compensated for by multiple imputation. Performance and goodness-of-fit will be

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compared for AUCs with cut-off points achieving the highest sensitivity and specificity calculated for the different risk scores.

FUNDING (IF APPLICABLE)

N/A

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