Time to awakening after cardiac arrest and target temperature management

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Introduction

Previous studies on time to awakening after cardiac arrest and hypothermia treatment did not have comparable control groups, gave conflicting results and lacked a protocol for withdrawal of care[1-3].

Objectives

To investigate the time to awakening after cardiac arrest and the association with target temperature and neurological outcome.

Methods

The present study is a post-hoc analysis of the Target Temperature Management after cardiac arrest trial (TTM-trial) randomizing 950 patients to a target temperature of 33°C (TTM33) or 36°C (TTM36), with no difference in survival or neurological outcome between groups [4]. Awakening was defined as Glasgow Coma Scale motor score (GCS-M) 6 and good neurological outcome as cerebral performance category (CPC) 1-2 at 180 days. There was a strict protocol for prognostication and withdrawal of care.

Results

Time to awakening during day 1-7 was longer in TTM33 (median 3 days, IQR 2-4) vs TTM36 (median 2 days, IQR 2-3), p<0.001 (Mann-Whitney-U). On day 7, 201/473 (42%) and 229/466 (49 %) had regained consciousness. We found no correlation between day of awakening and 180-day CPC (Spearmans correlation coefficient 0.079, p=0.1).

Conclusion

Time to awakening was longer in TTM33 than in TTM36 but there was no correlation between time to awakening and 180-day neurological outcome. The effect of sedatives and the effect of temperature on sedation need further investigation.