

Early Waking in Comatose Survivors of Out of Hospital Cardiac Arrest – MIRACLE2 score as a stratification tool

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Background

Therapeutic hypothermia use in post-resuscitation management of out-of-hospital cardiac arrest (OHCA) has decreased after the TTM-2 trial, presenting opportunity for earlier waking attempts on the Intensive Care Unit (ICU). There is little data to support selection of which comatose OHCA survivors may be suitable for early waking.

Materials and Methods

Retrospectively, we applied the MIRACLE2 score and Society for Cardiovascular Angiography and Intervention (SCAI) shock grade to patients enrolled in the Therapeutic Hypothermia and eArly Waking (THAW) trial. Primary endpoint was early waking (<12 hours from ICU admission).

Results

Patients were identified as low (0-3) and high risk (≥ 4) of poor neurological outcome by MIRACLE2 score, dividing the cohort into 25 low and 25 high risk patients (Figure 1). Comparing low to high-risk patients, there were lower rates of shock (SCAI grade B-E 32% vs 76%) and a higher proportion of patients met study criteria for suitability for early waking (68% vs 24%). 76% (13/17) of low-risk patients suitable for early waking achieved this, compared with 0% (0/6) of high risk. Of 15 patients with MIRACLE2 0-3 and SCAI grade A suitable for early waking, 88% achieved this. Good neurological outcome with extubation at any time occurred in 88% of low-risk patients and 24% at high-risk.

Conclusion

Comatose OHCA survivors with MIRACLE2 score of 0-3 and absence of shock (SCAI A) may be appropriate for early waking on ICU. Future randomised prospective studies might incorporate stratification tools to evaluate their potential role in early extubation on ICU.

THAW RCT

