

“Post Resuscitation Care in the Critical Care Environment: a retrospective audit of neurological management”

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To optimise neurological outcomes following cardiac arrest, the Australian Resuscitation Council (ARC) recommends targeted temperature management (TTM), blood pressure control, airway protection and ventilation, oxygenation, blood glucose management and seizure control. The aim of this study was to examine neurological management in the first 24 hours post cardiac arrest for adults admitted to the Intensive Care Unit (ICU) from the Emergency Department (ED). A retrospective audit of 200 adult patients who survived cardiac arrest requiring ED management, and transfer to ICU from 01/01/2010 to 31/12/2013 occurred at two health services in Melbourne, Australia. The median time to return of spontaneous circulation was 27 minutes and 94% were intubated pre-hospital. ARC recommend a systolic blood pressure (BP) >100mmHg: 15.5% of patients had a systolic BP <100mmHg on ED arrival. Blood glucose levels (BGL) <10mmol/L are recommended with use of insulin to treat hyperglycaemia. The median (BGL) during ED care was 14.4 mmol/L. Median BGL levels for those that did not receive insulin infusion in ED was 13.8 mmol/L. The median highest BGL in ICU was 15.0 mmol/L. Median highest BGL in patients in whom insulin infusion was not used during ICU care was 10.7 mmol/L. BGL levels in those that did not survive were higher than those that did survive. TTM was initiated during pre-hospital care in 30.5% of patients and in the ED for a further 21.5% of patients leaving 48.0% patients without active temperature management. The median duration of TTM in ICU was 15.0 hours. The median time to reaching the target temperature of 33 degrees Celsius was 11.3 hours. At both sites of the study localised TTM protocols were part of post resuscitation management care. Improved temperature and glucose management may improve neurological protection in patients post cardiac arrest. Objective, evidence based protocols for post resuscitation care that span the whole patient journey are recommended.

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