

POSTER PRESENTATION

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An integrated resuscitation service, combining a pre - hospital physician response unit with delivery to a dedicated high-volume cardiac arrest centre, optimises survival following cardiac arrest

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Purpose & background

Despite recent advances in resuscitation medicine, survival rates to discharge following out-of-hospital cardiac arrest (OHCA) remain poor. Recent data support the implementation of early critical care interventions including therapeutic hypothermia (TH) and immediate percutaneous coronary intervention (PCI). We describe a pre-hospital service where early delivery of critical care interventions and the capacity to transfer these unstable patients directly to a cardiac intervention centre is available through the deployment of a specialist physician response unit (PRU).

Methods

Prospective data were gathered on all cases of OHCA attended by the PRU, transferred to a single interventional cardiology centre. Data included patient demographics, clinical characteristics, clinical interventions at the scene and at hospital, and clinical outcome.

Results

Between 14th July 2013 and 19th August 2013, data were obtained on 28 patients, with a mean age of 59 (range 29-85). Twenty-three were male (82%). Presenting rhythms were ventricular fibrillation (VF) 68%, asystole 14%, pulseless electrical activity 11% and ventricular tachycardia (VT) 7%. There were return of spontaneous circulation (ROSC) at scene in 89%. PRU interventions included advanced airway management 90%, rapid sequence induction 71%, early TH 89%, mechanical load

distributing band CPR device was used in 82% and mechanical resuscitation during transfer 14%.

Survival data were as follows: Overall survival to cardiac intensive care (CICU) was 56%, with overall survival to discharge 48%. Of those patients (17) who underwent emergency angiography, 76% survived to CICU, with 64% surviving to discharge. Of patients presenting in VF, 62% survived to discharge. Interestingly, 72% of patients who received TH survived to discharge. All patients who underwent successful PCI survived to discharge with good neurological outcomes.

Conclusions

In selected cases, outcomes following OHCA can be optimized by integrating a physician-led cardiac arrest service enabling urgent delivery of patients to a cardiac arrest centre, with the early application of neuro-protective strategies, circulatory support and interventional cardiology techniques.

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