(71) Out-of-Hospital Surface Cooling With a Cooling-Blanket to Induce Mild Hypothermia in Humans after Cardiac Arrest: A Feasibility Trial

T. Uray;[1] R. Malzer;[2] A. Auer;[2] A. Zajicek;[2] F. Sterz;[3] J. Arrich;[3] R. Fleischhackl;[3] A. Janata;[3] M. Holzer;[3] A. Laggner;[3] W. Behringer[3]
1. Wien, Austria
2. Ambulance Service of Vienna, Vienna, Austria
3. Medical University Vienna, Vienna, Austria

Introduction: Animal studies suggest that early and fast induction of mild hypothermia is crucial for beneficial outcomes after cardiac arrest. The aim of the study was to evaluate the feasibility and safety of out-of-hospital surface cooling with a novel cooling-blanket (EMCOOLSpad®), independent of any energy source during use) in patients successfully resuscitated from cardiac arrest.
Methods: This study included patients after out-of-hospital cardiac arrest with an esophageal temperature (Tes) >34°C. The EMCOOLSpad® consists of multiple cooling units, filled with a graphite/water mixture, stored at -3°C in a cooling box in the ambulance. The cooling-blanket was applied as soon as it was feasible by the ambulance crew, and removed at Tes = 34°C. The target-temperature, Tes = 33°C, was maintained for 24 hours. Data are presented as median and interquartile range (25–75%).
Results: From September 2006 to December 2006, 10 patients, with an average weight of 70 (64–93) kg, were included in the study. Cooling was initiated an average 14 (7–20) min after resuscitation. Use of the cooling-blanket decreased Tes from 36.5 (36.2–36.7)°C, at start of cooling, to 34.0°C within an average of 61 (47–93) min, and to target temperature, Tes 33°C, within 83 (61–119) min. The cooling rate was 2.6 (1.6-3.6) °C/h. Hospital admission was an average of 45 (40–53) min after Return of Spontaneous Circulation (ROSC), Tes 33°C, was achieved at an average of 78 (32–107) min after admission. No skin lesions from use of the cooling blanket were observed.
Conclusions: Non-invasive, out-of-hospital surface cooling with EMCOOLSpad®, immediately after resuscitation from cardiac arrest, demonstrated that its use is feasible and safe. It must be determined if early cooling, as compared to delayed cooling in the hospital, will improve neurological outcome in a prospective randomized trial.
Keywords: cardiac arrest; cooling blanket; esophageal temperature; hypothermia; surface cooling
Prehosp Disast Med 2007;22(2):s46

(73) Prehospital Risk Factors for Iatrogenic Tracheal Stenosis

B.M. Gerritse;[1] A. Besselink-Lobanova;[2] JTM Draaisma;[2] H. Marres[2]
1. Radboud University Hospital, Nijmegen, The Netherlands
2. University Hospital Nijmegen, Nijmegen, The Netherlands

Introduction: Three patients received surgical treatment in one hospital for iatrogenic stenosis of the trachea. All of them developed severe stridor after detubation while in the intensive care ward. These patients sustained major, traumatic injuries that required field intubation. They were admitted to the hospital by a Helicopter Medical Team (HMT). The present study is a consequence of these case reports. The aim was to identify risk factors for iatrogenic tracheal stenosis during prehospital treatment.
Methods: This study examined all the patients who were intubated in the field by the HMT using a cuffed endotracheal tube within a period of six months in 2006. Patient data collected included: (1) prevalence of shock; (2) use of alpha-agonists; and (3) endotracheal cuff pressure (recommended upper limit 25 cm H_2O).

Endotracheal cuff pressure was measured only after the standard prehospital routine for intubation and insufflation of the cuff had been performed. Medical personnel charged with the insufflation were not informed regarding the purpose of the study.
Results: Ninety-three patients were included in the study; indications for prehospital intubation were brain injury, major trauma, and cardiac resuscitation. One or several causes of iatrogenic tracheal stenosis could be identified in 81 patients: 80 patients had a cuff pressure above the 25 cm H_2O limit, the mean cuff pressure of all patients was 57 ±33 cm H_20. Eleven patients were in hypovolemic shock, and 4 patients were administered with alpha-agonists.
Conclusions: Inappropriately high cuff pressures frequently are measured after prehospital intubation in the Netherlands. Training of all personnel involved in field intubation is urgently required.
Keywords: cuff pressure; field intubation; Helicopter Medical Team; hypovolemic shock; tracheal stenosis
Prehosp Disast Med 2007;22(2):s46

(74) Emergency Transport of Acute Drug Poisoning Cases in Athens, Greece

A.N. Athanasia Togia;[1] T.N. Sergentanis;[1] M.A. Sindos;[1] D. Ntourakis;[2] I.N. Sergentanis;[1] D. Gessoura;[1] K. Bachtis;[1] D. Pyrros[1]
1. Hellenic National Centre for Emergency Care, Athens, Greece
2. Red Cross Hospital, Athens, Greece

Introduction: This study analyzed the drug poisoning-related calls received by the Dispatch Center of the Hellenic National Centre for Emergency Care (EKAB) in Athens, Greece.
Methods: Among the 317,388 calls received by the Athens Operations Centre of EKAB in 2005, all acute drug poisoning-related calls were analyzed. Statistical analysis was performed using STATA 8.0 statistical software.
Results: A total of 1,806 calls due to acute drug poisoning (0.6%) were recorded in 2005. The majority of cases pertained to female patients (68.2%). A total of 24% of the cases originated within the municipality of Athens. January was the month with the highest number of calls (12% of all calls), and 38% of calls were recorded during the 18:00–00:00 hour interval, and the within-day variability was statistically significant (p <0.001). The within-week variability was not statistically significant.

The median time for arrival of the ambulance at the scene was 19 minutes; the median time at the scene was 12 minutes, and the median time for transport to the hospital was 26 minutes. The majority of cases were transported by BLS ambulances (82%), followed by mobile intensive care