

sites of accidents. Using a double-engine helicopter, the service is the first dedicated aeromedical transport service in Japan. Currently, there are only 10 stations in Japan, but >35 are envisioned for the future. The system is a national project funded by equal contributions from the national and local governments. Unfortunately, the financial burden confronting many local governments means that their funding has become a bottleneck for expansion. However, the economic benefits associated with preventing “preventable deaths” have been demonstrated through the Dr-Heli system. Additional problems with deploying aeromedical facilities in Japan include difficulties with landing on major transportation routes. In addition, while communication between aeromedical facilities and the police has improved markedly, further cooperation with fire departments, police services, and road management bodies is necessary. The effectiveness and advantages of medical transport by helicopters in urban areas also must be assessed. While these aspects have been demonstrated in suburban areas and areas with insufficient medical services, they have yet to be considered and assessed in major cities.

Keywords: aeromedical; development; emergency medical services; funding; helicopters; Japan; transport

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(61) Return of Spontaneous Circulation and Neurologic Outcome after Administering LUCAS-CPR for In-Hospital Cardiac Arrest

P. Durnez,¹ W. Stockman²

1. H. Hart Hospital, Roeselare, Belgium
2. Belgium

Introduction: Recently, LUCAS-CPR was introduced at H. Hart Hospital in Belgium.

Methods: From February until June 2006, LUCAS-CPR was used for all cases of adult in-hospital cardiac arrest after the arrival of the in-hospital emergency team. The Glasgow Coma Scale (GCS) Score was used to determine the neurological outcome 24 hours after discontinuing sedative drugs. At three months, the outcome was determined by the Cerebral Performance Categories (CPC). Results are presented as mean \pm standard deviation.

Results: Thirty-five patients received in-hospital LUCAS-CPR. Thirteen were female. The mean value for the age was 72.6 \pm 10.6 years. In 16 cases, the arrest occurred in a monitored department (emergency department, coronary care unit, intensive care unit), and a 19 occurred in a general ward. All but one of the arrests were witnessed. The mean duration of manual, closed-chest compression before LUCAS-CPR was 6.6 \pm 4.91 min. The first rhythm was asystol in eight patients (22.8%), PEA in 19 (54.3%), and VT/VF in eight (22.8%). Return of spontaneous circulation was obtained in 22 of 35 patients (62.9%). Twenty-four hours after discontinuing sedative drugs, the GCS was favorable (14 or 15/15) in 15 cases (42.8%). At three months, the CPC was 1 in 4 (11.4%) and of 2 in 5 patients (14.3%). One patient had a CPC of 3 and one had a CPC of 4.

Conclusion: LUCAS-CPR is a good alternative for manual closed-chest compression for patients with in-hospital

cardiac arrest. ROSC ratio (62.9%) and early neurologic outcome determined by the GCS (42.8%) are high. Long-term follow up by CPC supported a positive outcome (CPC 1 or 2) in 25.7%.

Keywords: cardiac arrest; circulation; hospital; LUCAS-CPR; return of spontaneous circulation

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(62) Role of the Greek Aeromedical Evacuation Office during Early Reperfusion of Patients with ST-Elevation Myocardial Injury

D. Efthymiadis,¹ A. Chaidar Chael,² P. Vergopoulou¹

1. National Center for Emergency Care, Athens, Greece
2. Greece

Introduction: In Europe, coronary artery disease is responsible for 40% of deaths of persons \leq 75 years age. About 1:3 of acute myocardial infarctions (AMI) are fatal before treatment, mostly within the first hour after symptoms appear. Aeromedical transport of cardiac patients quickly is developing internationally. In-flight coronary thrombolysis, temporary pacing, and defibrillations have been documented as safe and improve morbidity and mortality rates.

The Aeromedical Evacuation Office of the National Center for Emergency Health Care (EKAB) has been the official governmental institution for providing prehospital emergency medical care in Greece since 1994. The EKAB provides high standards of aeromedical services.

Methods: An international bibliography review, statistical analysis of the EKAB database, review of the protocol of in-flight coronary thrombolysis, and the scientific estimation of Greek Aeromedical Evacuation Office practices has been elaborated.

Results: A meta-analysis of six trial studies, which included 6,000 patients, documented that the average time to treatment from AMI symptoms setting decreased by 58 minutes after prehospital thrombolysis, resulting in 17% decrease of in-hospital mortality. Decreasing one hour to treatment with prehospital thrombolysis application saved 21 lives/1,000 patients that were treated within in the time frame of three hours from onset of symptoms.

Conclusions: A pilot study of in-flight coronary thrombolysis and aeromedical transportation for primary Percutaneous Transluminal Coronary Angioplasty, in collaboration with the Greek Cardiological Society and Greek Task Force for Invasive Cardiology, provides an opportunity to compare international and Greek results with the aim of further development of this practice in Greece.

Keywords: aeromedical; emergency medicine; evacuation; Greece; myocardial infarction

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(63) Functions of Hyogo Emergency Medical Center

S. Kozawa; S. Nakayama; M. Tomioka; T. Ukai

Hyogo Emergency Medical Center, Kobe, Japan

The Hyogo Emergency Medical Center (HEMC) was established in 2003, and is intended to save lives by adjusting care between each organization during disasters.

First, there are several training courses for medical staff and medical volunteers in Hyogo Prefecture, disaster medical assistance teams (DMATs), and well-trained and well-

equipped medical teams activated during the first 48 hours after the onset of a disaster. Training courses also exist for overseas medical staff, including a disaster medical management course for Andean countries (Bolivia, Columbia, Ecuador, Peru, Venezuela), a training course in the reinforcement of mitigation and preparedness in disaster medicine (the Philippines), and the Hyogo overseas technical trainees program (Indonesia, Nepal).

Secondly, the HEMC regularly holds a meeting with the core hospitals and government organizations, such as the firefighters, the police, and the Self-Defense Force, to prepare for a disaster.

There also is an alliance called the DRA (Disaster Reduction Alliance), which is composed of the 15 organizations (WHO, JICA, ORCHA, UNCRD, etc.) in Kobe that share information in order to reduce the risk of the disasters.

Finally, relief workers are sent to the scene of disasters as a part of the government organizations, where they cooperate with the non-governmental organizations.

Relief workers have been dispatched to domestic and foreign disasters, such as Typhoon Tokage, the Niigata Chuetsu Earthquake, the train derailment in Amagasaki, the Bam Earthquake, the Sumatra Earthquake and Tsunami, the earthquake in Pakistan, and the Java Earthquake.

Keywords: disaster; disaster management assistance team; government organizations; Hyogo; Japan

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(64) Utilization of a Nurse-Operated Call Center in Clalit HMO in Israel during the Israel-Lebanon War, July–August 2006

A. Goldberg;¹ I. Zmora;¹ M. Berkowitz;¹ O. Berkowitz;² Z. Sadeh²

1. Clalit HMO, Tel Aviv, Israel
2. Israel

Introduction: Clalit Health Services (CHS) is one of the world's largest Health Maintenance Organizations (HMOs). Clalit runs a nurse-based Call Center (NCC) that provides medical consulting on various medical issues. All calls are documented.

During the Israel–Lebanon war in 2006, the northern part of Israel experienced heavy bombardments. The supply of health services was limited. The NCC continued to be active during the conflict.

Methods: An analysis of NCC data comparing utilization by CHS members in the north during war and pre-war periods was conducted. The NCC utilization ratio during four time periods (pre-war, war 1, war 2 and post-war) was then compared, in the affected areas and in the rest of the country. Data were analyzed considering the main causes for the calls.

Results: The average of daily calls in affected areas during wartime was 186 compared to 126 during the previous six months. Significant differences were noted in abdominal pain (4.66 vs 3.35, $p = 0.02$), issues of pregnancy (13.8 vs 7.07, $p < 0.001$), and instructions for the use of medications (9.60 vs 7.46, $p = 0.004$). Call rates in affected districts were 142, 239, 256, and 148 calls per 100,000 in pre-war, war 1, war 2, and post-war time periods respectively. These results

compared to 278, 250, 264, and 271 per 100,000 in the non-affected districts.

Conclusions: A significant increase in the number of calls processed in war-affected areas. Calls returned to baseline numbers immediately after war. There was a decline in the number of calls from people in other parts of the country. The NCC was an important source of medical information during the war, partly filling the lack of regular health services during this period of crisis.

Keywords: health services; Israel; medical consultation; nurse-operated call center; war-affected areas

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(65) Too Late and Too Long for Babies! The Role of Emergency Transportation and Trained Paramedics in Preventing Infant Mortality in Rural North India

J.J.C. Chungath;¹ S. Singh;² R. Franz;³ S. Seena;¹ P. Anthikkal²

1. Emmanuel Hospital Association, New Delhi, India
2. Broadwell Christian Hospital, Fatehpur, India
3. Wheaton College, Chicago, Illinois USA

Objective: To study the role of emergency transportation and the lack of timely paramedic resuscitation on fetal outcome in labor patients in rural Uttar Pradesh.

Methods: A retrospective analysis of 1,480 babies born to 1,422 pregnant mothers from May 2003 to April 2006 in a secondary-level center in rural India was done. There was one triplet and 56 twin pregnancies. The distance traveled and the time from the onset of labor was analyzed in relation to fetal outcomes.

Results: There were 105 fetal deaths (7%) out of 1,480 deliveries. It was found that the risk of fetal death is 2.89 times greater when the mother in labor was brought from a distance of >10 km (CI = 1.89–4.44 km). It also was found that mothers who delayed arrival to the hospital for >6 hours after the onset of labor were 2.75 times (CI = 1.56–4.92) more likely to have fetal death occur.

Conclusions: With an infant mortality rate (IMR) of 83/1,000 live births, the state of Uttar Pradesh has one of the highest infant mortality rates in the world. Uttar Pradesh alone contributes 25% of all infant mortalities in India. The provision of emergency transportation systems and trained paramedics will help India to achieve the Millennium Development Goal of IMR <27 per 1,000 by 2015. This will be the contribution of emergency medicine in preventing the fetal death, which often is a tragic consequence of a normal physiological occurrence.

Keywords: emergency transportation; India; infant mortality rate; mothers in labor; paramedics

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(66) Role of Emergency Medical Services Agencies during Hospital Evacuation or Need for Mass-Patient Transfer

M.J. Reilly; D.S. Markenson

New York Medical College, Valhalla, New York USA

Introduction: Many studies detail the lack of surge capacity among hospitals during a disaster or public health