

cardiogenic CPA patients from the total cases.

Results: Spontaneous circulation returned in 447/1151 patients (38.8%), 61 (5.3%) survived, and 17 (1.5%) recovered fully. Among all CPA cases, influential factors for survival included arrival status, etiology, age, and time interval. For those who had a good recovery, the significant factors were arrival status, bystander CPR, and etiology. EMS was not an influential factor in any case. However, among the cardiogenic oh-CPA cases, EMS was a prognostic factor, and ELGs positively influenced both the survival and good recovery.

Discussion: To improve the outcome of CPA patients, spontaneous circulation should be achieved in the prehospital setting, the frequency of bystander CPR should be increased, and the time interval from collapse to hospital arrival diminished. Permitting ELGs to intravenously administer epinephrine and to perform intubation using standard endotracheal tubes may improve the outcomes of oh-CPA further. It also is important to educate the ELGs continuously and to educate the general population regarding the bystander CPR technique.

Conclusion: Japanese ELGs improved the outcomes of cardiogenic oh-CPA cases. Continued ELG education and the amendment of the system are necessary steps to obtain further improvement.

Keywords: advanced airways; bystanders; cardiopulmonary arrest (CPA); cardiopulmonary resuscitation (CPR); emergency life guards (ELGs); emergency medical services (EMS); intubation; Japan; out-of-hospital; prehospital; outcome

General Session XVIII
Education and Training
 Wednesday, 12 May, 8:30–9:45 hours
 Chair: *Richard Aghababian, Yoshiaki Okada*

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Education and Training of Physicians in Emergency Medicine in the Czech Republic

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Introduction: Emergency Medicine (EM) in the Czech Republic (late Czechoslovakia) started its development in the early 1970s originating from the disciplines of anaesthesiology and resuscitation, in parallel with organization of the Emergency Medical Service (EMS) system. Since 1992, all the state territory is covered by the EMS system comprising both surface and air rescue systems. The EMS system operates with physicians on-board of emergency vehicles and helicopters. Physicians are responsible for providing casualties with emergency medical care on-the-spot using the equipment on EMS vehicles/helicopters. Before 1998, these physicians have not been recognized as an appropriate, well-defined, medical specialty.

Education and Training: In 1992, the Minister of Health established in the Institute for Post Graduate Medical Education (IPME) the Department for Emergency and Disaster Medicine (EDM) with the intention

of giving physicians in first contact with patients with acute illness/injury — general practitioners and EMS physicians — education directed exactly to specific problems of prehospital emergency medical care. Until this time, anaesthesiologists proved to be the physicians best suited for providing the life saving interventions. In 1998, the Minister of Health established Emergency Medicine in the country as higher medical specialization.

The Department of EDM in the IPME offers physicians three levels of postgraduate education: 1) Basics of EM: courses and training in CPR and in medical emergencies for general practitioners and all physicians in first contact with acutely ill or injured patients; 2) Courses for EM residents: before examination by specialists; and 3) Continuing education in EM.

Disaster Medicine: Crucial topics such as planning, organization, and management of rescue interventions after events that cause a disaster (mass casualties) are included in the educational plan for Emergency Medicine.

Keywords: disaster medicine; education; emergency medicine; residents; training

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Ethical Considerations of Models for Teaching Emergency Medicine

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There are ethical issues associated with using models to teach medical procedures. Typical ethical questions trade-off the realism of the model against the rights of the model, taking into account the distribution of resources.

Plastic models: Plastic models such as Resusci-Anne®, consume resources, and lack realism. Plastic models have no rights. The ethical issues associated with plastic models are those of resource distribution and skills transfer.

Food Animals: The use of food animals for teaching procedures raises many of the same moral issues as does the use of animals for human consumption or clothing. Procedures commonly taught using parts of food animals include intraosseous needle placement in chicken legs and suturing of pig or turkey skin.

Non-Food Animals: The use of non-food animals raises issues not only of animal rights or suffering, but also didactic issues. Small animals are so different from humans that they almost are useless for teaching medical procedures. Larger animals may be companion animals. Some procedures, such as endotracheal intubation, do not result directly in the animal's death. Others, such as thoracotomy, may. An additional ethical issue is the effect of the use of these animals on the trainee.

Primates: Primates are most like humans in terms of anatomy and physiology, but also most like humans in terms of their understanding of life and death. Many are