

POSTER SESSIONS**Session 1: CPR—Hospital—Miscellaneous**

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Dopamine as a Defender from Re-Arrest During Transportation After CPR in Prehospital Treatment*D. Csuszo, A. Evetovic, I. Csuszo*

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Objectives: The most delicate part of the prehospital treatment of those patients for whom CPR was employed and who, thereafter, achieved cardiovascular stabilization, is their immediate, post-CPR transportation. During the transfer and transportation of these patients, there is an increased risk of cardiac arrest. The conditions for reanimation of the patient in the moving ambulance car are rather inappropriate. If dopamine hydrochloride is administered to these patients, it decreases the risk of re-arrest during the transportation.

Methods: In the period from 01 February, 1994 through 31 January, 1997, one of four prehospital medical teams performed CPR in 137 persons. At the scene of cardiac arrest, 54 (39.4%) patients regained spontaneous heart beat with palpable pulse. Each of these patients were transported in the ambulance to the reception area of the intensive care ward. Before the transfer of 42 of these patients to the ambulance, dopamine hydrochloride was included in the intravenous infusion in the dosage of 3–5 mcg per kg body weight per minute. When the estimated time of the transportation was less than 5 minutes (12 patients), dopamine was not included. During the whole process of prehospital treatment, the patients were monitored on the defibrillator screen.

Results: During the transportation in the ambulance, nine patients (16.7%) developed a re-arrest (three with asystole, six with ventricular fibrillation), and CPR was started again while they were in the ambulance. Three cases of re-arrest developed in the group without dopamine (4 cases) and five occurred in the group with dopamine (42 cases). At arrival to the reception area of the intensive care ward, all but two of these patients had regained spontaneous heart activity with palpable pulse. Two patients did not respond to the repeated CPR.

Conclusion: Administration of dopamine hydrochloride in the dosage of 3–5 mcg/kg/minute in the IV infusion during the preparation and transportation of patients after the successful CPR in prehospital conditions considerably decreases the risk of the re-arrest appearance.

Key Words: cardiopulmonary resuscitation; dopamine; transportation

Monitoring of Intensive Care Patients Prepared for Transportation*Peter Felleiter,¹ Werner Breschinski,² Lorenz Lamp²*

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Introduction: Modern intensive care therapy includes monitoring of a large number of physiological parameters. Transportation of critically ill patients within or between hospitals necessitates the use of mobile monitoring equipment that only is capable to process a few parameters. Moving the patient from his bed onto a table for radiological diagnostics or onto a stretcher brings up the need to disconnect as many lines as possible in order to protect arterial and venous catheters, drains, and tubes from accidental dislocation. We prospectively investigated the number of monitored parameters in critically ill patients who were prepared for inter-hospital transportation with a helicopter.

Methods: For a period of 31 months, transport-accompanying physicians documented on a study protocol, whether the electrocardiogram (ECG), oxygen saturation (SaO₂), invasive (IBP) or non-invasive (NIBP) arterial blood pressure, central venous pressure (CVP), pulmonary arterial pressure (PAP), intracranial pressure (ICP), and temperature of patients to be transported was monitored on the intensive care unit. Transports of all intensive care patients performed with the helicopter based in Ulm, Germany were registered. The NACA-Score (National Advisory Committee for Aeronautics) was used to classify the patients, severity of injury or disease.

Results: During the study period, protocols for 448 patients were collected. The NACA-Scores of the patients were III in 13%, IV in 39%, V in 40%, VI in 3% and VII in 3% of cases; in 2% of cases, no score was marked. When the physician arrived at the ward, ECG was monitored in 75%, SaO₂ in 60%, NIBP in 61%, IBP in 13%, CVP in 9%, PAP and ICP each in 1%, and temperature in 20% of patients. Invasive pressure measurements were used for one parameter in 66%, for two parameters in 29%, and for three parameters in 5% of cases.

Due to the fact that all patients already were prepared for transport with a helicopter, the reported frequency of monitored parameters is not a measure for the monitoring standard on intensive care units. Instead, a tendency of intensive care personnel to monitor only a limited number of vital parameters continuously is shown.

Conclusion: The relatively large number of patients with more than one invasive pressure measurement leads to the conclusion that a monitoring system for transportation of critically ill patients has to be able to process ECG, SaO₂, temperature, NIBP, and at least two invasive pressure measurements. Furthermore, transport-accompanying physicians must be well-trained in the interpretation and therapeutic consequences of ICP and PAP measurements and in their dangers and pitfalls.

Key Words: critically ill; monitoring; physician training; transport