

the Torino 2006 Olympic Medical Service and the Public Health System of the Piedmont Region.

Methods: We conducted a retrospective review of medical care provided to athletes, officials, workforce, and members of the 'Olympic family' at one of the three polyclinics inside the Olympic Villages. This polyclinic was located in Sestriers during the XX Olympic Winter Games and IX Paralympic Winter Games Turin 2006.

Results: Descriptive statistics were used to characterize data from the Olympic medical care database.

Conclusion: This review evaluated the level of preparedness and the level of services available during the XX Olympic Winter Games and IX Paralympic Winter Games in Torino, Italy in 2006.

Keywords: basic and emergency medical care; Olympic Winter Games 2006; Paralympic Winter Games; polyclinic; preparedness
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Oral Presentations—Theme 8: Life-Threatening Situations in Daily Emergencies and Disasters

Session 1

Chairs: TBA

Emergency Medical Evacuation of Patients with Severe Lung Failure using Miniaturized Extracorporeal Assistance Devices

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Objective: An experience with two new miniaturized extracorporeal assistance devices (EADs) for emergency, interhospital transfer for adult patients experiencing severe lung failure was analyzed. The utilization, efficiency, and safety of the new assistance devices were characterized. Patient preparation, including cannulation were described, and the care and precautions en route were reported.

Methods: Between March 2001 and February 2007, EADs were used to facilitate medical emergency evacuation for 19 adult patients with severe hypoxemic/hypercarbic respiratory failure (n = 15), or combined respiratory and cardiac failure (n=4). Extracorporeal assistance devices were used to access the percutaneous vessels. The technique included pumpless extracorporeal lung assist (PECLA) in 15 patients. Closed-loop, extracorporeal circulation with a centrifugal pump unit for arterio-venous life support (n = 3) and veno-venous extracorporeal membrane oxygenation (n = 1) was assessed with the new Emergency Life Support System (ELS). The ELS and PECLA systems are small enough to be placed on a standard gurney.

Results: None of the patients died en route. Air medical evacuation was used for 13 patients, and six patients were

transported via ground ambulance. Survival was 40% in the PECLA group and 75% for the ELS patients. During extracorporeal assistance, no technical complication occurred. The patient-related complication was two cases of limb ischemia due to the arterial cannula.

Conclusions: The application of miniaturized extracorporeal assistance devices enables the secure transportation of critically ill patients without technical or personnel support. Oxygen delivery can be restored rapidly and blood-flow can be ensured en route.

Keywords: emergency medical services; evacuation; extracorporeal assistance devices; lung failure; transport

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Diagnostic Accuracy of Capillary Refill Time for Victims of Trauma and Gastrointestinal Bleeding

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Introduction: Capillary Refill Time (CRT) is an important component of START, the rapid triage tool used to evaluate the circulatory status of casualties.

Objectives: The objective of this study was to evaluate the predictive rate of shock by use of the CRT.

Methods: An observational study was conducted to assess out-of hospital trauma and gastrointestinal (GI) bleeding patients transported to the tertiary emergency center from 2001 to 2005. Upon admission, the CRT, pulse rate, respiratory rate, and Glasgow Coma Scale (GCS) were recorded. Shock was defined based on the Shock Index and clinical findings. Cases of CRT that lasted >2 seconds or were incalculable were predicted as shock, and the predictive rate was analyzed statistically. Patients <15-years-old and those experiencing out-of-hospital cardiopulmonary arrest were excluded from the analysis.

Results: A total of 572 trauma and 42 GI bleeding patients were enrolled in this study. One-hundred sixty-two patients (26.4%) were diagnosed as experiencing shock among the 614 total patients. The sensitivity of CRT for shock status was 74.1%, specificity was 92.0%, positive predictive value was 76.9%, and the negative predictive value was 90.8%.

Discussion: Considering CRT is one of the triage tools for mass-casualty incidents that must have a low incidence of false negative cases, the sensitivity of CRT seems to be unacceptable. In order to improve the diagnostic accuracy of CRT, additional physiological parameters are needed. However, an increase in the evaluation items may deteriorate the assessment speed, which is crucial for the evaluation of victims during a mass-casualty incidents. In the future, a prospective study must compare the accuracy of a set of assessments.

Keywords: Capillary Refill Time (CRT); gastrointestinal bleeding; mass-casualty incident; shock; trauma; triage

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