

cardiopulmonary resuscitation, 5 (none successful); control of gross bleeding, 2; reposition of fracture, 1. Fifty-one hospital records have been examined up to now provided evidence that the prehospital measures were life-saving in three subjects and contributed to stabilization of the patient's condition preventing deterioration prior to hospital admission in another 18 subjects.

Conclusions: The time from the alert to team response was short in view of the fact that the personnel always were engaged in routine medical work prior to the alert. Methods of transportation (from fire department or ambulance) were adequate. The number of cancellations was annoyingly large, especially in the central district. Measures are needed to increase the accuracy of the alert. The time consumed in the responses was such as to cause delays in routine hospital work, especially during off-office hours. Such a drawback might be relieved by increasing the number of personnel engaged. Medical procedures were judged to be adequate showing sufficient basic training of personnel in disaster medicine. It is our opinion that the teams are a necessary part of the medical obligations of the community.

The complete figures for the year of 1998 will be presented at the Congress of WADEM, where updated data will be available.

Keywords: alert; effects of treatment; medical teams; primary care; procedures; response times; total time

General Session XVI

Mass Gathering

Wednesday, 13 May, 14:50–16:20 hours

Chair: *Se Kyung Kim, Noriyoshi Ohashi*

G-76

Mass Casualty in a Pop Music Concert Instead of Being a Programmed Event: Home Fair 1997, Lima, Peru

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Introduction: On 05 August 1997, the main show of the Home Fair 1997 program was provided by two young Venezuelan singers of tropical music, who were very popular with Peruvian teenagers in that time. As a consequence of bad organization and the fanaticism of the young adolescents, four female teenagers and one male died, and approximately 1,000 people were injured. The open auditorium that has an approximate capacity for 20,000 was filled with 100,000 people. The Assisted Transport of Emergency System and other organizations were responsible for the medical assistance and help facilities for that programmed event.

Purpose: To analyze the conditioning factors for mass casualties at a programmed event, and to formulate recommendations about the management of this kind of events.

Methods: Descriptive methods were used to gather data. The prehospital record sheet for responses by The

Assisted Transport System (STAE) was revised. Additional data were obtained from the hospitals to which the victims were referred.

Results: Instead of this event following the path programmed in previous meetings for coordinating actions, on the day of the concert, the situation ran out of control with the tragic result of the deaths of five adolescents. The average age of the victims was 17 years (range: 15–19 years). Four of the victims were women and one was a man. The STAE was in charge of assisted transport and attended a total number of 43 patients, two of them arrived dead to the hospital; 39 were women (90.7%), four (9.3%) were men. The main injuries were: multiple contusions, acute respiratory failure, limb trauma, thoracic trauma, and abdominal trauma. The others three deaths occurred within five days after the event. The approximate number of injuries was 1,000, the majority of them as a consequence of the mass pressure against the people who wanted to be closer to their idols. The main cause of death was traumatic asphyxia. There were no case of cranial trauma.

Conclusion: The disaster was imminent many hours before the concert began. The organizers did not want to cancel it despite of the recommendations made by the Health Commission and the STAE. The main pathology was the trauma and traumatic asphyxia, the principal cause of death. We will discuss recommendations to prevent these kinds of problems, and to prevent disasters of this magnitude.

Keywords: asphyxia; crowds; injuries; mass gathering; planning; trauma; traumatic asphyxia

G-77

Treat and Release: A New Approach to the Emergency Medical Needs of the Oldest Mass Gathering — the Pilgrimage

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The Pilgrimage season in the Holy Land of Makkah possibly is the largest and oldest mass gathering known to mankind. In this activity, at least 2.5-million persons from all of the Muslim countries perform a pilgrimage (Hajj) that requires their presence at specific areas at the same time for a period of 5–7 days. This leads to a high population density that reaches 8–9 persons per square meter.

Like all mass gatherings, the need for emergency medical care was recognized and preparations were made by the Saudi Red Crescent Society (SRCS), the agency responsible for emergency medical services (EMS) in the Kingdom of Saudi Arabia. The plan of the SCRS for the coverage was to respond to all emergency calls through a dispatcher system. Review of this system for a period of five years indicated that the main task was to transfer all patients (7,000–9,000 per year) to the nearest emergency center. The trip time (from dispatch

until back in service) reached three hours in 82% of the total call volume in the pilgrimage area during 1996.

These results were the primary reason for the study group to recommend a more efficient and effective approach to the needs for the emergency medical coverage of this area, which was called "Treat and Release".

This pilot plan was implemented for two consecutive pilgrimage seasons (1997, 1998), and showed that by using the management plan, 73.8% of the ambulance trips have been eliminated. The results highlight the efficacy and efficiency of emergency medical services when provided at the crowd site compared to the results attained with the former, more traditional plan.

Keywords: emergency medical services (EMS); Hajj; needs; mass gatherings; mass gatherings; pilgrimage; planning; preparedness; transport; treat and release

G-78

The Disco Fire in Göteborg October, 1998

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Just before midnight on 29 October, 1998, a fire broke out in a discotheque located on the second floor of an old warehouse in Göteborg, Sweden. Despite a rapid response from the Fire and Rescue Service, 61 teenagers died entrapped in the burning building.

The medical treatment on scene were limited due to physical abuse of ambulance crews by bystanders and friends of the injured. The "load and go" principle was used bringing nearly 200 injured people to the hospitals within the area in a short time span.

Thirteen patients had to be transported to Burns Units within and outside Sweden. However, the major strain on the Health Care System was caused by an enormous demand for psychosocial support.

Keywords: burn units; burns; discotheque; fire; load-and-go; psychosocial support

G-79

Medical Liaison Officers — A Useful Tool to Counteract Potential Hazards

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Mass gatherings are potential risks for major accidents and disasters. During the last years, a number of public events have been held in Göteborg, resulting in massive crowding of the inner city area. As a response to such situations, a formal collaboration between the Göteborg Police Department and Göteborg Health and Medical Services has evolved

In situations in which potential risks of casualties are foreseen, health personnel will be stationed as liaison

officers in the Police Command Centre. In this position, they immediately will become aware of any escalating threats, and thus, can respond early. This routine has proven useful both in situations that can be foreseen (e.g., sports events, demonstrations), as well as suddenly appearing incidents (e.g., bomb threats).

Keywords: disasters; hazards; liaison officers; mass gatherings; police; risks

G-80

Admission of Mass Casualties in Gothenburg after the Great Discotheque Fire, 29 October, 1998

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At 23:42 hours (h) on 29 October, 1998, the worst fire disaster in modern Swedish history occurred in a discotheque in Gothenburg. Sixty young girls and boys died at the scene. Three more died later in hospital due to burn injuries and lung injuries. The majority of the victims were second generation immigrants.

A total of 162 patients were brought to the hospitals in the Gothenburg area. The patients were triaged rapidly in the emergency rooms, and then transferred to the intensive care units (ICUs) or regular patient-care wards. Thirteen patients were transferred by air to other hospitals with Burn Units within and outside Sweden.

What came as surprise was the enormous workload placed on the teams giving psychosocial care, both within the hospitals as well as in the community as a whole.

Keywords: burns; burn units; discotheque; fire; inhalation injury; lung injury; multi-casualty incident; psychosocial care

G-81

Mass Flame Disasters: Rules of Stage Treatment

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This presentation is based on the experience in medical aftermath from technogenic disasters in Russia.

The strategy for the provision of Disaster Medicine includes three stages of medical aid to burn victims:

- 1) A doctor is sent to the disaster zone depending on the evaluation of the severity and prognosis;
- 2) Render emergency aid in the case of acute disorders of the victim's vital functions; and
- 3) Casualty transportation.

The stage of qualified medical aid occurs in local hospitals that are located near to the disaster zones. It varies depending on the number of burn victims, the results of medical triage, and the availability of medical resources. The general rules of medical aid are: 1) adequate pain relief; 2) respiratory or cardiovascular insufficiency; 3) provision of intensive antishock infusions and