

between the hospitals in the region. About 50% of the severely injured reached the Trauma Centers (there are six in Israel);

- 3) There was a significant difference between damage caused by explosions in closed areas such as buses or explosions in an open space. In closed spaces, the percentage of fatalities is 40% as opposed to 13% in open spaces; and the percentage of urgent cases is higher, 38% as compared to 24%; and
- 4) In incidents where more than one explosion occurred, the teams who reached the scene quickly, were greatly endangered — however, the number of casualties per incident in open spaces did not rise significantly.

Keywords: bombings; environment; evacuation; explosions; multi-casualty incidents; teams; terrorists; trauma centers; treatment at scene

G-26

The Nairobi Bombing: The Israeli Medical Team Experience

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On Friday, 07 August 1998, at 10:35 hours local time, a massive bomb blast rocked the American Embassy and its surroundings, in Nairobi, Kenya. The attack killed 213 people and injured more than 4,000 civilians. A rescue team of 180 soldiers was deployed by the Israeli government to assist local authorities in the complicated rescue mission. A medical team of 26 members joined the rescuers.

During the first hours after the bombing, the information received from Nairobi regarding types of injuries was very poor. But, it was obvious that the local medical facilities were intact and functioning. With this assumption in mind, the deployment policy was constructed: The medical team would include various experts to assist at local hospitals and "light" medical equipment to help provide primary medical care to survivors and rescuers at the bombing site. The personnel consisted of: Team Commander and deputy, five general surgeons, three orthopedic surgeons, one neurosurgeon, four anesthesiologists and 11 nurses, paramedics, and medics. The equipment consisted of standard military medical bags, which included appropriate tools for airway management, chest drainage, external hemorrhage control, initial fluid resuscitation, immobilization, and various drugs. Non-standard equipment included: one pulse oximeter in each medical bag, pediatric equipment, a large amount of bicarbonate, type "O" positive blood, and frozen plasma.

Thirty hours after the bombing, the Israeli team arrived in Nairobi. Soon, it became evident that all survivors already were evacuated to local hospitals. At this time, the medical team was split into two components: 1) Medics, paramedics, and one physician remained at the bombing site in case more survivors would be dis-

covered; and 2) All others joined local physicians at Kenyatta Medical Center. Israeli anesthesiologists and surgeons, in conjunction with the local teams, performed a total of eight operations.

Important epidemiological information was discovered only after the arrival of the Israeli teams in Nairobi: there were a large number of penetrating eye injuries. If this information had been obtained earlier, ophthalmologic surgeons would have joined the team.

Keywords: bombing; eye injuries; Nairobi; surgery; teams, international; teams, Israeli medical; trauma

Panel Discussion-II

Lessons Learned from the Great Hanshin-Awaji Earthquake

Tuesday, 11 May 8:00–10:00 hours

Chair: *Ernesto Pretto, Kiyoshi Tatemichi*

PN2-1

A Survey of Emergency Medical Requirements following the 1995 Hanshin-Awaji Earthquake: An Overview of Morbidity and Mortality of Hospitalized Patients

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Objective: The objective of this study was to provide an overview of the morbidity and mortality of hospitalized patients during the Hanshin-Awaji earthquake.

Methods: Medical records of 6,107 patients admitted to 95 hospitals (48 affected hospitals within the disaster area and 47 back-up hospitals in the surrounding area) during the initial 15 days after the earthquake were analyzed retrospectively. Patient census data, diagnoses, dispositions, and prognoses were considered.

Results: A total of 2,718 patients (44.5%) with earthquake-related injuries were admitted to the 95 hospitals, including 372 patients (6.1%) with crush syndrome and 2,346 (93.9%) with other injuries. There were 3,389 patients (53.5%) admitted with illnesses. Seventy-five percent of the injured were hospitalized during the first three days. In contrast, the number of patients with illnesses continued to increase over the entire first 15-day period after the earthquake. The mortality rates were 13.4% (50/372), 5.5% (128/2,346), and 10.3% (349/3,389) associated with crush syndrome, other injuries, and illness, respectively. The overall mortality rate was 8.6% (527/6,107 patients). The mortality rate for patients with trauma and crush syndrome was significantly higher in the affected hospitals. Morbidity as well as mortality rates increased with age for both patients with injuries and patients suffering from illnesses. Out of the 6,107 patients, a total of 2,290 (38%) were transferred to back-up hospitals during the first 15 days following the earthquake, consisting of 187 (50%) with crush syndrome, 702 (26%) of patients with other injuries, and 1,401 (41%) with illness. Of those 2,290 patients, 1,741