than 6,000 deaths. It was an unexpected, urban-type, earthquake disaster which terrified many persons across the whole world as well as in Japan. We have learned a lot from this great earthquake.

On 08 May, 1996, we began "Sai-no-Kuni Rescue Teams"—teams with emergency medical technicians and doctors to save and protect the citizens' life and property in case of large-scale disasters such as earthquakes, natural disasters, accidents, etc., within this prefecture. Their emergency rescue and EMT activities should begin immediately after the outbreak of a disaster. Though there are similar organizations, such as Emergency Fire Rescue Teams organized by Fire Department of the Ministry of Home Affairs or Fire Rescue Mobile Task Force started by Tokyo Fire Department, Sai-no-Kuni Rescue Teams are the first in Japan organized with a medical task force from the beginning of the plan. First, the whole prefecture is divided into four blocks, each has Rescue Teams, Ambulance Teams, and Fire-Fighting Teams. Besides, the prefecture has Helicopter Teams and Medical Teams. Rescue Teams, Ambulance Teams, and Fire Fighting Teams are organized by the fire service headquarters of each block registered to the prefecture (total = 182 members). Helicopter Teams are organized by Saitama Anti-Disaster Aviation Corps (total = 18 members with 2 helicopters), and Medical Teams by a corporate juridical person, Saitama Medical Association (total = I5 members or doctors and nurses, etc.).

This is Japan's first comprehensive disaster service organization as fire service and medical organization will assemble at the outbreak of large scale disasters for rescue, ambulance, and medical activities combined together in the air and on the ground.

Key Words: disaster; helicopters; medical doctor; rescue

Session 2A: Trauma

Audimax Chairpersons:
S. Fitzel (Austria)
Y.T. Wang (Peoples Republic of China)

Ultrasonography in the Evaluation of Hemoperitoneum in War Casualties

Alan Šustić,[1] Boris Mlinarić,[2] Damir Miletić[2]
1. Department of Anaesthesiology and ICU, 2. Department of Urology, University Hospital, Rijeka, Croatia

Objective: The aim of the study was to evaluate sensitivity, specificity, and accuracy of emergent ultrasound examination in the detection of hemoperitoneum among war casualties, and to compare the results of the method in specific war situations versus civil conditions.

Methods: Ninety-four (94) wounded persons with suspected blunt or penetrating abdominal trauma were treated at the level I war-hospital (Group W), and 242 poly-traumatized civilians (Group C) with suspected blunt abdominal trauma were admitted at the Emergency Center of the University Hospital. All examinations were performed by highly competent specialists (>3 years of experience and >1,000 examinations) each with portable ultrasonographic scanner (Esaote-Biomedica C7000, 3.5 MHz—Group C; Hitachi EUB 405, 3.5 MHz—Group W). Typical points were scanned (Morison's, Douglas, and perisplenic spaces, and paracolic gutter) and all examinations were done in <5 minutes.

Results: In Group W, hemoperitoneum was identified correctly in 19 patients, with 3 false negatives, and without any false positive findings. Group C presented 98 positive results, 13 false negative and again no false positive results. We observed that ultrasonography in specific war conditions showed sensitivity of 86%, specificity of 100%, and accuracy as high as 97%, while in civil conditions it read 88%, 100% and 95%, respectively.

Conclusion: The sensitivity, specificity, and accuracy of emergent ultrasound examination in the diagnoses of hemoperitoneum are approximately equal in war and in civil conditions.

Key Words: hemoperitoneum; war casualties; ultrasonography

The Comparative Analysis of Emergent Ultrasound Detection Hemoperitoneum Performed by Physicians of Different Specialties

Alan Šustić,[1] Boris Mlinarić,[2] Damir Miletić[2]
1. Department of Anesthesiology and ICU, 2. Department of Radiology, 3. Department of Urology, University Hospital, Rijeka, Croatia

Objective: The objective of this study was to determine the sensitivity and specificity of emergent ultrasound examination in detecting hemoperitoneum, comparing the results that were obtained by three different specialists (radiology, surgery, anesthesiology) with presumably the same ultrasonography experience.

Methods: A total of 242 poly-traumatised adult patients suspected of blunt abdominal trauma were examined by ultrasonography at an emergency center. All examinations were performed by three equally experienced examiners (>3 years of experience and >1,000 examinations) of different specialization using the same portable ultrasonic scanner (EsaoteBiomedica, C7000; 3.5 MHz). Examination time was limited to 5 minutes with scanning of typical places (Morison's, Douglas, and perisplenic spaces, and paracolic gutter).

Results: The findings were defined as positive if free fluid was visualized intra-peritoneally. Depending on the examiner's specialization, the patients were placed into one of three groups; 1) Group R was examined by the radiologist (101 points); 2) Group S by the surgeon (68 points); and 3) Group EM (73 points) by the anesthesiologist from the emergency department. Free peritoneal fluid was found in 98 cases (40.5%), true negative result in 131 (54.1%), false negative result in 13 cases (5.4%), and no false positive results were reported. In the Group R, true-positive was in 39 (38.9%) cases with 6 (5.9%) false negative findings. Group S identified true positives in 24 patients (35.3%) and 3 (4.4%) with false negative findings. Finally, in the group EM, free fluid