

**Methods:** We retrospectively reviewed 403 CT of acute abdomen between January 1990 and August 2000. A final diagnosis was made by surgery. Early CT imaging was obtained within 6 hours after patient arrival.

**Results:** 403 patients with an acute abdomen were identified, and the underlying causes were as follows: diverticulitis in 87 (21.6%); appendicitis in 73 (18.1%); bowel obstruction in 63 (15.6%); gastrointestinal perforation in 35 (8.7%); acute cholecystitis in 31 (7.6%); pelvic inflammatory disease, 31 (7.6%); necrotizing acute pancreatitis, 23 (5.7%); ileus in 23 (5.7%); cancer, 13 (3.2%); ischemic bowel, 10 (2.5%); aortic aneurysm rupture, 8 (2%); and hemorrhage, 6 (1.4%). These findings are similar to other studies.

**Conclusion:** CT is a useful tool to provide valuable information for the diagnosis of the cause of acute abdomen. It allows a rapid, cost-effective evaluation of these patients. CT represents a useful tool in the decision making for surgical or nonsurgical management.

**Key words:** acute abdomen; computerized tomography (CAT); diagnosis; differential; surgery

*Prehosp Disast Med* 2001;16(2):s28.

### Relationship of Pancreatic and Peripancreatic Fat Necrosis to Organ Failure in Acute Pancreatitis

*E.M. Alonso Fernández, A. Cenarro, J.J. Lalanza, E.S. Ibiza*

**Objective:** A prospective study to determine the relationship of pancreatic and peripancreatic fat necrosis to organ failure in acute pancreatitis.

**Methods:** Fifty-six patients out of 275 (20.4%) with necrotizing pancreatitis from 1990 to 1999 were reviewed. Pancreatic necrosis was identified by characteristic findings on dynamic contrast-enhanced computerized tomography scan. Dysfunction was defined in accordance with the Atlanta symposium. We performed a univariate and multivariate statistical study with lineal discriminant analysis.

**Results:** The overall mortality was 17/275 (6.2%). Surgical treatment 24/275 (8.8%). Organ failure was present in 76.8% of 56 patients. There was statistically significant difference in the prevalence of organ failure in pancreatic necrosis compared with interstitial pancreatitis ( $p < 0.01$ ). The pancreatic head was affected in 9/275 (3.3%), body in 9/275 (18.97%), and the tail in 9/275 (10.2%). 5% had more than 50% of pancreas necrosed. 73/275 (26.5%) patients had peripancreatic fat necrosis.

Patients with increased amounts of necrosis did not have an increased prevalence of organ failure or infected necrosis. The anatomical site also did not correlate with overall clinical outcome. Patients with organ failure had an increased morbidity and mortality.

**Conclusion:** CT necrosis is not an indication for surgery or mortality. CT imaging helps to identify early, those patients who should be monitored closely to expedite the detection and treatment of complication.

**Key words:** computerized tomography; multiorgan system failure; necrosis; pancreatitis; peripancreatic fat

*Prehosp Disast Med* 2001;16(2):s28.

### A Drill as Part of the Training System: Training Hospital Staff to Cope with a Chemical Mass Casualty Event

*Nurith Fertel, RN, BA; Bianca Lederman, MD*  
ISRAEL

Since chemical weapons and mass destruction events have a potentially catastrophic effect on civilization, all of the hospitals in Israel are committed by the Ministry of Health and the Medical Corp of the Israeli Defense Forces to prepare for the administration of optimal medical services for a large number of casualties. Successful coping mechanisms of the medical staff for such treatment necessitates special organization based on 5 phases: (1) establishing standing orders and instructions, (2) expansion of facilities and pre-designated admitting sites, (3) designation of the hospital staff to the admitting sites and creation of special roles, (4) training programs to assure capabilities and skill performance of the staff, and (5) participating in drills.

These drills, which take place on an annual basis, are a crucial part of the training program. They simulate a realistic scenario, which requires the hospital to allocate the necessary staff (approximately 1,500) and equipment, update the instructions, the standing orders, and implement acquired knowledge. Videos recorded during these drills become a visual educational aid for future training, and even more importantly, for learning relevant lessons from the mistakes. Preparedness for a drill, is a long and complicated procedure that demands a substantial amount of time and resources. In this presentation, we would like to present our model of preparedness for a drill, step-by-step, from the moment we receive an announcement of a drill until the debriefing meetings. "War Games" [drills] are a very important part in the training program aimed to ensure the ongoing preparedness and alertness of the medical staff.

**Key words:** chemical weapons; disasters; drills; exercises; expenses; games; planning; preparedness; resources; standing orders; training; weapons of mass destruction

*Prehosp Disast Med* 2001;16(2):s28.

### Medical Opportunity of the Resort to Emergency Wards in the Auvergne

*Dr. Marie Françoise; Andre Mresse; J. Malroux; B. Baris*  
Clermont Ferrand Cedex, FRANCE

The medical service of the National State Health Insurance Office in the Auvergne, within the context of its mission determined by law, evaluated the medical opportunity of patients to use the 15 emergency wards of the region. A pragmatic method, based on joint opinions of doctors of the medical service and hospital section heads, indicated that a high percentage of patients—18%—who used the service did not need it. In most cases, these patients are rather young adults suffering from harmless diseases that can be treated by a general practitioner, or the elderly who need to be taken in care structures for health care and social welfare.

This overuse of emergency wards for nonemergency

care, combined with the increasing overattending of emergency wards, indicated that the prehospital care structure was imperfect. Decision makers, who have in their charge to regulate the care system (Regional Union of the Social Security Offices [URCAM], Regional Hospitalization Agency [ARH]) used this study to establish an optimal organization for the use of emergency wards.

**Key words:** characteristics; emergency wards; patients; prehospital care; utilization

**E-mail:** ersm63.doc@wanadoo.fr

*Prehosp Disast Med* 2001;16(2):s29.

### Activities of JMTDR in Sumatra

*Nobuo Fuke,<sup>1</sup> Kenji Taki,<sup>2</sup> Hiroyuki Yokota,<sup>3</sup> Naomi Nishida; Rumi Yoshioka; Tomoko Miyazaki; Miwako Fukui; Saeko Yamamoto; Naomi Nonaka; Mutsuo Ishizawa; Tsutomu Yamagishi; Hideaki Kuroba; Junko Okumura*

Japan Medical Team for Disaster Relief: 1. Teikyo University Ichihara Hospital; 2. Saga Medical School; 3. Tama-Nagayama Medical Center; Nippon Medical School, Tokyo, JAPAN

**Introduction:** On 04 June 2000 at 23:28 hours, an earthquake of 7.4 magnitude on the Richter scale struck the southwest coast of Sumatra Island, Indonesia. The initial report said that more than 900 thousands people were involved, and that at least 58 persons lost their lives. Bengkulu City, the state capital of Bengkulu, and its surrounding area were affected. Entrance into the buildings of Yunus Hospital, the largest medical facility in the area and one of the class B hospitals of the nation, was prohibited for security reasons, and hence, all in-patients were accommodated in tents.

**Methods:** The Japanese Government dispatched its volunteer-based, medical team, JMTDR (Japan Medical Team for Disaster Relief), and the team arrived at the Bengkulu airport 81 hours after the eruption. The JMTDR established a field clinic in the front yard of Yunus Hospital in cooperation with the local headquarter. Information that many injured victims in a mountainous area could not come to see a doctor prompted us to start another field clinic in Tais, a suburb of Bengkulu. A Singapore army team came first and established a field clinic with minor surgery services in Yunus Hospital, and a Taiwanese team built its facility as well in Sukaraja village near Bengkulu. The JMDTR focused its activities on providing medical care for the most vulnerable, namely children and then, the elderly.

**Results:** The team saw a total of 526 patients (453 in Yunus, and 73 in Tais) within ten days. The frequency distribution of the medical problems seen in Yunus was: 28% respiratory diseases; 16% minor psychiatric disorders such as headache, sleeplessness, or fear sensation; 15% trauma; and 9% gastrointestinal diseases. On the other hand, we mainly saw trauma patients in Tais (88%) and in Yunus (86%). Eighty-two percent of them in Tais lived within 40 minutes distance on foot or by car, but some of the patients (1.2%) took more than 90 minutes to come to our clinics.

The Indonesian Government declared that all medical services associated with the earthquake were free, but this announcement was unknown to most of the people. The JMTDR offered them free and accessible medical services in the acute phase.

**Conclusion:** The rapid establishment of a field clinic affords time to the local medical facilities to reorganize and restore their abilities in this kind of disastrous situation.

**Key words:** clinics; earthquake; field clinics; hospitals; infrastructure; Japan Medical Team for Disaster Relief (JMTDR); responses

*Prehosp Disast Med* 2001;16(2):s29.

### Ingestion of Major Caustic Substances by Children

*L. Gabilly; G. Bagou; N. Richard; O. Péguet; D. Floret; P. Petit*

Lyon, FRANCE

**Introduction:** The ingestion of caustic substances constitutes more than a third of domestic accidents in developed countries: 80% of them concern children under the age of 5 years. Clinical signs either are atypical and limited, or missing half of the time, and lead to an underestimate of the seriousness of the ingestion.

**Methods:** This retrospective study (1984 to 2000) on 14 children hospitalised for accidental ingestion of major caustic substances in the intensive care unit of Edouard-Herriot Hospital in Lyon).

**Results:** The studies showed that these substances were various: 79% ingested bases; 14% acids, and 7% oxidisers (concentrated bleach). Most of the children were <5 years old (57% of them were between 1.5 and 3 years old). All of them showed, at sometime, discrete clinical signs: oral burns (43%), oral oedema (36%), hypersialorrhoea and vomiting (29%), dysphagia and thoracic pains (22%), and premature fevers (14%). A systematic fiberoscopy indicated 100% of digestive lesions, 50% of them being gastric lesions. Ingested bases involved 67% of stage II mucous lesions (as for endoscopic classification): ulcerations, and intense oedema. They also involved 33% of stage III mucous lesions: ulcerations, oedema and profuse bleedings. Acids caused 50% of the stage II lesions and 50% of stage III lesions. The only case caused by an oxidiser involved a stage II lesion. Every patient was treated: 55% of dilutions and surgical procedures for stage II lesions, and 80% of them for stage III lesions. Complications occurred frequently (60%), either immediately (chemical epiglottitis) or occurring as long as one year later (lesional or iatrogenic affections). Anamnesia was difficult, practically speaking. Some procedures are dangerous: vomiting, drinks, neutralisations, and stomach tube insertion. The initial undertaking is symptomatic. The child is to be steered within a structure allowing the making of an oesophago-gastric fiberoscopy, which always is necessary (50% of absence of correlation between causticity, ingested quantity, and clinical signs). A cervicothoracic x-ray must precede the fiberoscopy when a perforation is suspected. One-third showed the complications, 10% of which are related to stenosing aftereffects. The risk of later development of