

possibly using broadcasting networks or the news media. However, with dissemination of information through the media, the problem of control becomes a major issue.

Key Words: chemical disaster; organophosphate poisoning; poison information; poisoning; sarin

Methamphetamine Abuse: Worldwide Potential for Violence

John R. Richards, MD; Robert W. Derlet, MD

Division of Emergency Medicine University of California-Davis Medical Center, Sacramento, California USA

Objectives: Methamphetamine abuse rapidly is becoming a worldwide problem. The substance is inexpensive, easily manufactured, and highly addictive. Toxic levels or chronic use of the drug often results in agitation, violent tendencies, and frank psychosis. In California, methamphetamine now is the most common drug of abuse presenting to emergency departments for acute toxicity. In this study, we describe 155 patients presenting to the emergency department (ED) for violent agitation who required chemical restraint.

Methods: A prospective study in which violent, agitated patients requiring chemical restraint who presented to a large, urban, university hospital ED serving northern and central California between January 1996 and January 1997 were enrolled. Epidemiologic characteristics such as age, gender, race, employment status, type of health insurance, and admission of drug use were recorded. Type and dose of chemical restraint used were recorded, as well as use of physical restraint. Toxicology screens were performed on all patients.

Results: The mean age was 33.8 ± 10.4 years with a range of 16 to 64 years. Fifty-six patients (36%) were female. There were 108 Caucasian (70%), 27 black (17%), and 20 Hispanic patients (13%). Only 51 patients (33%) were employed, and 98 (63%) had no medical insurance. Forty-three (28%) had government-assisted medical insurance (MediCal/MediCare), with the remaining 14 (9%) having private insurance. One-hundred fourteen patients (74%) had positive toxicology screens for methamphetamine, and 20 (13%) were positive for cocaine. Ninety patients (58%) had positive toxicology screens for ethanol. Seventy two patients (46%) received a benzodiazepine for sedation. The remaining 83 (54%) received a butyrophenone. Eighty-five patients (55%) also required the use of physical restraint.

Conclusion: Methamphetamine toxicity is a common finding in patients presenting to our ED with violent, agitated behavior. Methamphetamine abusers tend to be young, white males who are unemployed and have no medical insurance. Liberal chemical and physical restraint often is required to subdue these patients.

Key Words: abuse; agitation; methamphetamine; restraint; toxicology; violent behavior

Hazardous Material Accidents with Mass Casualties: Prevention Strategies by Hamburg Fire Brigade

H.R. Paschen;¹ J. Schallhorn;¹ M. Lipp²

1. Fire Brigade, Hamburg, Germany 2. Clinic of Anesthesiology University Mainz, Mainz, Germany

Hazardous materials (HazMat) incidents cause high uncertainty in Emergency Medical Services (EMS) personnel because of both a lack of experience and the endangerment to the providers health.

In 1984, the Hamburg Fire Brigade organized a special squad to handle HazMat accidents of all types that included the techniques and environment-protection station. According to the needs of the mission, equipment is stored ready for use in tool and gear carriers (tag). In case of alarm, they are delivered by truck to the scene.

In the case of an accidental HazMat release, a technical advisor counsels the local fire brigade officer. The technical adviser identifies the unknown HazMat and provides all of the information needed for the operation. For material identification, he has at his disposal, a mobile, mass spectrometry, and gas chromatography linked to an electronic database.

Because of the great number of institutions and authorities involved and the potential danger to large numbers of citizens in how the HazMat accident is handled, a far-sighted planning is essential. Hamburg authorities published a "guideline to defense menace from HazMat concentration in the atmosphere." It lays down the responsibilities of each institution in the case of a HazMat accident.

In case of a HazMat accident with mass casualties, the Hamburg Fire Brigade dispatches the following as part of the first alarm:

to handle the HazMat

- 2 fire appliance for special service
- 1 tag "respiratory protective devices"
- 1 tag "salvage devices"
- 1 tag "radiation protection instruments"
- 1 tag "water protection devices"

for medical treatment

- 1 chief emergency physician
- 1 + n medical intensive care units (MICU)
- 7 + n ambulances
- 1 ambulance bus (capacity: 12 lying, 18 sitting)
- 1 + n rescue sets for major accidents officer in charge

The rescue of human beings is the highest priority for all personnel. Victims are brought out of the hot zone for immediate medical treatment. After stabilization of the vital parameters, transport begins. For specific antidote treatment, three antidote-sets for treatment of 15 victim each are available. Prophylactic evacuation of a whole quarter is handled very restrictively as it exceeds the immediate evacuation capability. The inhabitants are advised to stay inside of the buildings and keep doors and windows closed. In such circumstances, training of all firefighters and paramedics in Hamburg has proved to be extremely valuable.

Key Words: chief emergency physician system;